RECLAMATION

Managing Water in the West

Environmental Assessment

Western Dublin Recycled Water Project, California

15-11-MP

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Acronyms

µgm3 – micrograms per cubic meter

ACS – American Community Survey

APE – Area of Potential Effect

BAAQMD – Bay Area Air Quality Management District

BART – Bay Area Rapid Transit

BMP – best management practice

Caltrans – California Department of Transportation

CAP – Bay Area Clean Air Plan

CARB – California Air Resources Board

CCR – California Code of Regulations

CDFW – California Department of Fish and Wildlife

CEQ – Council on Environmental Quality

CEQA – California Environmental Policy Act

CESA – California Endangered Species Act

CFGC – California Fish and Game Code

CFR – Code of Federal Regulations

CH_4 – methane

CNDDB – California Natural Diversity Database

CO – carbon monoxide

CO_2 – carbon dioxide

CO_{2e}– carbon dioxide equivalents

CVP – Central Valley Project

dB – decibel

DERWA – DSRSD-EBMUD Recycled Water Authority

DPM – diesel particulate matter

DSRSD – Dublin San Ramon Services District

EA – Environmental Assessment

EBDA – East Bay Dischargers Authority

EBMUD – East Bay Municipal Utility District

EIR – Environmental Impact Report

EPA – U.S. Environmental Protection Agency

ESA – Federal Endangered Species Act

FEMA – Federal Emergency Management Agency

FIRM – Flood Insurance Rate Map

GHG – greenhouse gases

HFC – hydrofluorocarbons

HSC – California Health and Safety Code

IPCC – Intergovernmental Panel on Climate Change

ITA – Indian Trust Asset

LAVWMA – Livermore-Amador Valley Water Management Agency

LOS – level of service

MBTA – Migratory Bird Treaty Act

mg/L – milligrams per liter

mmhos/cm – millimhos per centimeter

mph – miles per hour

$MTCO_{2e}$ – metric tons of CO2 equivalent

N_2O – nitrous oxide

NAHC – Native American Heritage Commission

NEPA – National Environmental Policy Act

NHPA– National Historic Preservation Act

NMFS – National Marine Fisheries Services

NO_2 – nitrogen dioxide

NO_x – nitrous oxides

NPDES – National Pollutant Discharge Elimination System

PFC – perfluorocarbons

PM_{10} – particulate matter less than 10 microns in diameter

$PM_{2.5}$ – particulate matter less than 2.5 microns in diameter

PRC – California Public Resources Code

RD – Regional Director

Reclamation – U.S. Bureau of Reclamation

ROG – reactive organic gases

ROW – right-of-way

RWQCB – Regional Water Quality Control Board

SAR – sodium adsorption ratio

SCS – Soil Conservation Service

SF_6 – sulfur hexafluoride

SHPO – State Historic Preservation Officer

SRVRWP – San Ramon Valley Recycled Water Program

SWP – State Water Project

SWPPP – Stormwater Pollution Prevention Plan

SWRCB – State Water Resources Control Board

TAC – toxic air contaminants

USC – U.S. Code

USFWS – U.S. Fish and Wildlife Service

USGS – U.S. Geological Survey

VOC – volatile organic compounds

WHEELS – Livermore Amador Valley Transit

Zone 7 – Zone 7 Water Agency

Chapter 1. Need for Action

1.1 Introduction

This environmental assessment (EA) was prepared by the U.S. Bureau of Reclamation (Reclamation) to evaluate the environmental effects of authorizing the Western Dublin Recycled Water Distribution Project for Federal cost share (proposed action). The proposed action would provide up to 25% or $20 million to Dublin San Ramon Services District (DSRSD) to extend recycled water distribution pipelines to serve landscape irrigation demands at several schools, parks, streetscapes and medians, and the common area of developed areas located in Western Dublin. The majority of the distribution pipelines would be connected to the existing 12-inch DSRSD main located on Amador Valley Boulevard.

The project falls under Reclamation's Water Reclamation and Reuse Program, as authorized by the Reclamation Wastewater and Groundwater Study and Facilities Act of 1992, or Title XVI of Public Law 102-575 (Title XVI). Title XVI provides a mechanism for Federal participation and cost-sharing in approved water reuse projects. As the agency with discretionary approval over the provision of this Federal funding should Congress authorize the project, Reclamation is acting as the lead agency under the National Environmental Policy Act (NEPA) and has prepared this EA to evaluate the environmental effects of the proposed action.

1.2 Proposed Action Location

The recycled water distribution pipeline facilities associated with the proposed action would generally be located in the western portion of the City of Dublin, Alameda County, California (Figure 1). The service area for these distribution system facilities is an area generally bounded by the Iron Horse Trail to the east, Interstate 580 (I-580) to the south, Alcosta Boulevard to the North and Creekside Drive to the west (Figure 2).

1.3 Need for Action

DSRSD has identified four primary objectives for the proposed action:

1. Expand utilization of available recycled water to customers that are currently using potable water supply for irrigation.
2. Reduce importation of potable water from the San Francisco Bay Delta and the State Water Project (SWP).
3. Reduce discharge of wastewater into San Francisco Bay.
4. Reduce energy consumption and DSRSD's carbon footprint.

The delivery of recycled water to the facilities associated with the proposed action would reduce/postpone development of new or expanded water supplies. Recycled water is drought resistant, available all year long, and can be stored in existing facilities already built by the DSRSD-East Bay Municipal Utility District (EBMUD) Recycled Water Authority (DERWA), a Joint Powers Authority formed in 1995 between DSRSD and EBMUD for the purpose of providing recycled water as a replacement for potable water. Moreover, the proposed action would replace potable water currently used for irrigation and construction.

The delivery of recycled water to facilities served by the proposed action would reduce/postpone development of new or expanded water supplies. Recycled water is drought resistant, available all year long, and can be stored in existing facilities already built by DERWA or DSRSD independently. Moreover, the proposed action would replace potable water currently used for irrigation and construction. The recycled water supply would also offset the water supply provided by the Zone 7 Water Agency (Zone 7) from the SWP, which would consequently reduce diversions, reduce groundwater extraction, and reduce energy use by reducing or postponing the development of new water supplies by Zone 7.

The proposed action is considered a Priority 5 (least important to serve) project in the 2005 DSRSD Water Master Plan (West Yost & Associates 2005). This ranking was issued based on a lack of funding at the time the plan was developed. Over the past decade, funding opportunities have arisen in part due to the increase in limitations in water supply delivery as a result of drought conditions and regulatory requirements. The proposed action is currently considered more important and has risen in priority for the District and the community that it serves.

Figure 1 Project Location and Vicinity

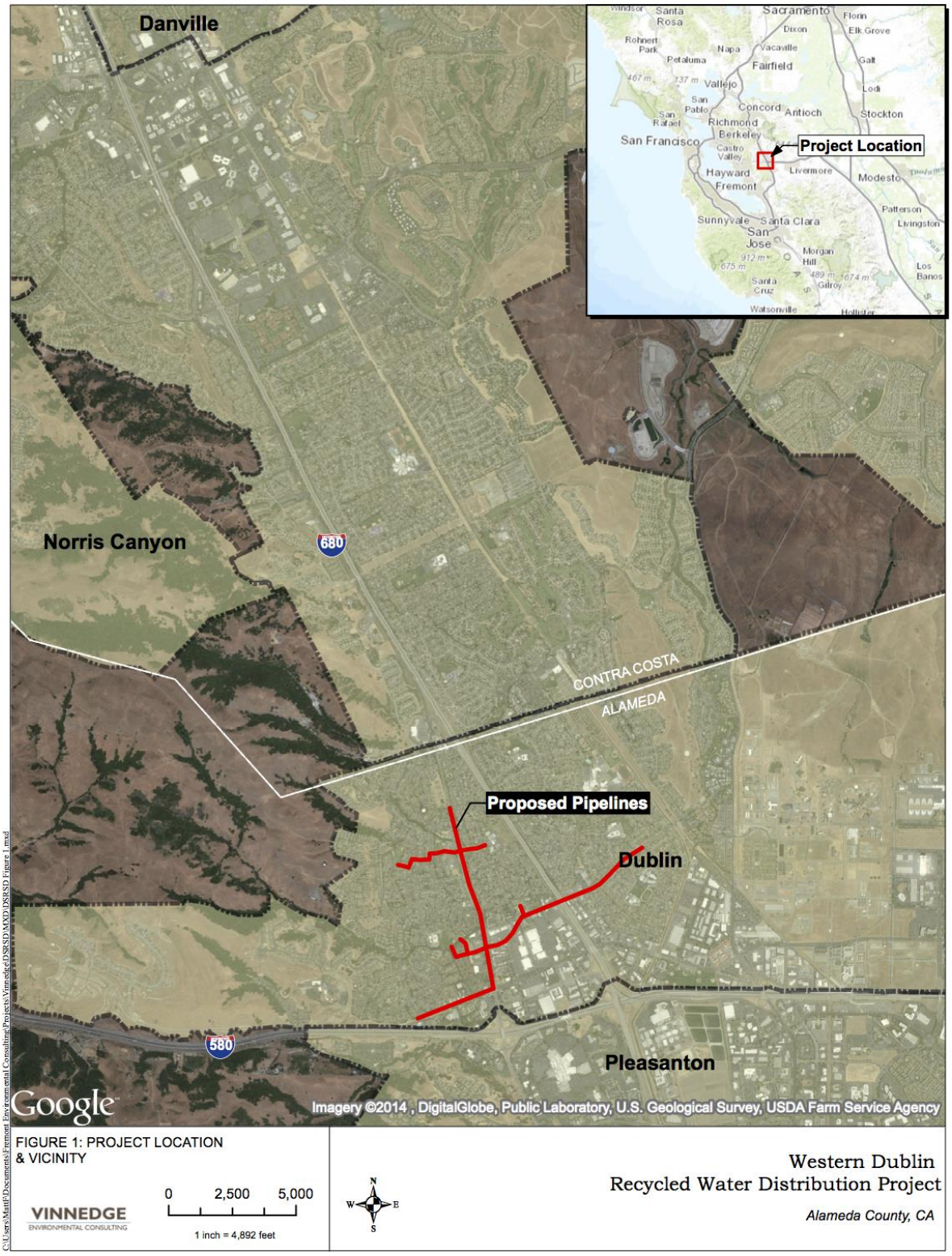
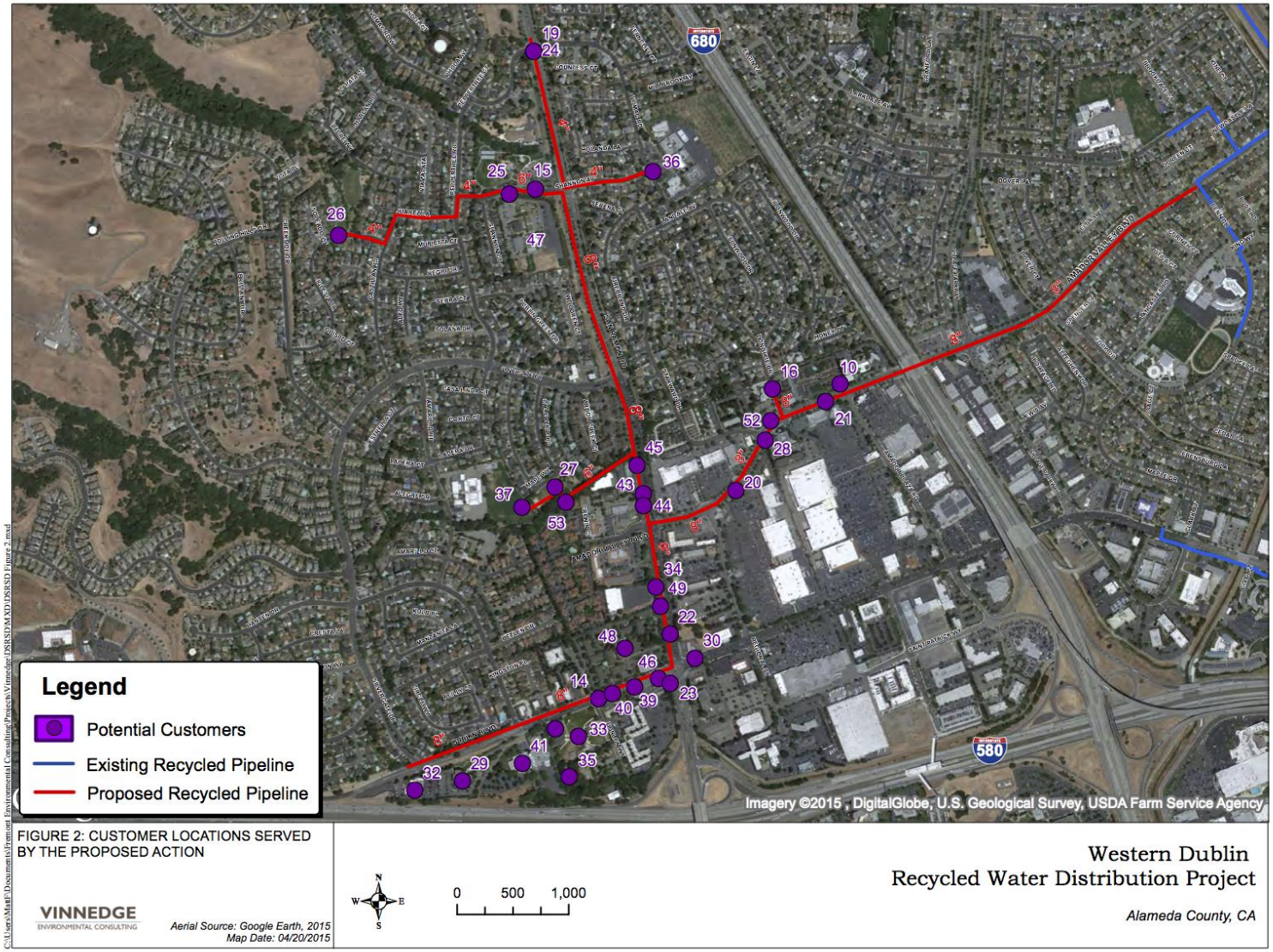


Figure 2 Customer Locations Served by the Proposed Action



1.4 Background

The San Ramon Valley Recycled Water Program (SRVRWP) supplies recycled water for landscape irrigation and other non-potable water uses to portions of the DSRSD and EBMUD service areas in the San Ramon and Dougherty valleys. The DERWA Board of Directors approved and certified a Program Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA) for the SRVRWP in December 1996 (SRVRMP EIR [DERWA 1996]). The SRVRMP Program EIR included an analysis of the transmission and distribution systems generally associated with the proposed action.

The purpose of this EA is to evaluate the potential environmental impacts of the proposed action, in accordance with NEPA, to allow Reclamation to consider the discretionary allocation of Title XVI funds to support implementation of the proposed action. DSRSD prepared and approved an addendum to the SRVRWP EIR in accordance with CEQA to consider modifications to some of the recycled water distribution pipeline locations identified in that document. These modifications would allow for a more efficient (and, therefore, cost effective) distribution system and reflect system refinements made to better serve the identified customer sites.

Chapter 2. Proposed Action and Alternatives

2.1 Proposed Action

Under the proposed action, Reclamation would provide Title XVI funding to DSRSD to partially fund extending recycled water distribution pipelines to serve landscape irrigation demands at several schools, parks, streetscapes and medians, and the common area of developed areas in Western Dublin.

2.1.1 New Pipeline Alignments

The proposed locations for the new distribution pipelines are depicted in Figure 2. All pipelines associated with the proposed action would be connected to the existing 12-inch DSRSD recycled water main at Amador Valley Boulevard. Construction of the proposed action would result in the disturbance of up to approximately 18,000 linear feet of existing developed roadways, landscaped areas, and bike paths along the proposed alignments (Figure 2). Most of the pipe installation would occur in one lane of travel within roadways (depending on location of utilities). Because exact utility locations are unknown at this point in time, the action area (i.e., area that would be directly impacted by the proposed action) is assumed to include the entire roadway (curb to curb), although the actual width of open trench would average 3 feet wide, except in cases where trenchless technology would be used. In some cases, the pipeline would be installed along paved pathways used for recreational purposes. For example, on the west side of San Ramon Road between Silvergate and Shannon Avenue, the pipeline would be installed in an existing bike path. In one location (Nielson Elementary) the 4-inch pipe would be installed in a private road and playing field.

2.1.2 Pipeline Sizing and Installation

New pipeline segments would range from 4- to 8-inches in diameter (depending on pressure and volume considerations). Approximately 11,560 feet of 8-inch pipeline, 1,300 feet of 6-inch pipeline, and 4,760 feet of 4-inch pipeline would be installed within existing developed roadways, landscaped areas and bike paths in Western Dublin.

Table 1 provides a list of the locations of the proposed new pipeline segments, as well as the associated pipeline diameters and lengths. Pipelines would be buried 5 to 6 feet below street level but could be as deep as 8 to 9 feet depending on existing utility lines.

Table 1 Proposed Pipeline Segments Diameter and Length

Facility Served (# on Figure 2)	Street	Pipeline Diameter (inches)	Pipeline Length (feet)
Amador Apartments (10)	Amador Valley Boulevard	8	2900
City of Dublin Medians (19, 20 & 21) Whitney Investments (52)		8	1400
City of Dublin Senior Center (28)		8	1620
Firehouse #16 (16)	Donohue Drive	4	330
Town & Country (49) City of Dublin Median (22, 23, 24) Dublin Iceland (34) Dublin Chevron (30)	San Ramon Road	8	1300
Shell Station (46) Heritage Park Office (40) The Springs (48) Church of Christ (14) Frankie Johnnie and Luigi (39)	Dublin Boulevard	8	760
Dublin Boulevard Associates (32) Hexcel (41) Dublin Historic Park (33) Dublin Executive Center (29) Dublin Pioneer Cemetery (35)	Dublin Boulevard	8	1760
Mape Park (27) Kildara (53)	Bike Path	6	800
Nielson Elementary (37)	Private Road	4	450
Michael Perkins (44) McNamaras Steak Chop House (43) Public Storage (45)	San Ramon Road	8	3100
Dublin Elementary (36)	Shannon Ave	4	800
St Raymonds Church (47)	San Ramon Road	4	1360
City of Dublin Shannon Community Center (15) City of Dublin Shannon Park (25)	Shannon Ave	6	500
City of Dublin Dolon Park (26)	Shannon Ave	4	1820

2.1.3 Proposed Action Construction

2.1.3.1 Construction Methodology

Installation of recycled water pipelines associated with the proposed action would consist of cut-and-cover trenching techniques and trenchless technology.

Cut-and-cover trenching would require excavating an open trench to allow placement of the recycled water pipeline and associated infrastructure, and backfilling that trench after the pipeline had been assembled. The open trench would be 5 to 9 feet deep and 3 wide. The depth of the trench depends on the presence of underground utilities and the size of pipe to be installed. Restoration of the ground surface following construction would include returning the roadways to their paved, pre-project conditions.

Excavated material not needed for trench backfill would be removed and disposed of at Waste Management's Altamont Landfill site located in Livermore, or at another approved site in the general vicinity of the proposed action. Large diameter pipe (8-inch) would be pre-positioned along the alignment during construction to avoid multiple handlings; smaller diameter pipe may be temporarily stored at a suitable construction yard for delivery to the alignment as required.

Construction activities would also include trenchless technology to bury the pipeline under two major intersections. The City of Dublin requires trenchless technology at Village Parkway/Amador Valley Boulevard and San Ramon Road/Amador Valley Boulevard intersections.

Creek and Flood Control Crossings

Crossing three flood control channels would be accomplished by burying the recycled water pipe in the fill dirt above the existing culvert/pipe and below the sidewalk. The first flood control channel crossing would occur at a concrete-lined flood control channel that crosses under San Ramon Road just north of Shannon Avenue. At this location, the recycled water pipeline would be installed in the fill between the road and the top of the culvert under San Ramon Road. Another concrete lined flood control channel parallels I-680 within the proposed alignment. The District has determined that they will be open trenching above the culvert(s) at this location. The final channel crossing is also located on Amador Valley Boulevard just west of York Drive. Because the channels within the proposed action that could be crossed using open trenching techniques and because these channels are in existing culverts/pipes or concrete-lined, there is no possibility of impacting the watercourse.

In addition, the proposed action includes crossing Martin Canyon Creek at two locations west of San Ramon Road. The creek is approximately 5-feet wide at the bed and flows are ephemeral. The first crossing would be located where the creek is piped under San Ramon Road north of Amador Valley Boulevard. At this location, the recycled water pipeline would be installed in the fill located above the existing culvert and below the paved sidewalk. The second crossing of Martin Canyon Creek would be located at Mape Park. At this location, there is a paved path and an existing pedestrian bridge. The proposed 6-inch pipeline would be attached to this bridge or fixed immediately adjacent to the bridge so as not to disturb the bed or bank of the creek. The access to the bridge would be along and existing paved foot/bike path and the construction method would be shallow trenching within the paved path. All disturbance in the vicinity of these crossings would be temporary, and there would be no changes to the size, location, grade, or configuration of the existing channels.

Construction Sequence

The construction of the proposed action would generally be sequenced as follows:

- Construction contractor mobilizes and prepares the staging area.
- Trenches to accommodate pipeline excavated.
- Pipeline assembled.
- Pipeline trenches backfilled (excess materials removed from site).
- Area revegetated and/or repaved.

Construction Equipment

Potential construction equipment may include an excavator, backhoe loader, bulldozer, dump truck, roller, track loader, vibratory compactor, concrete truck, street sweeper, and a dust control water hog/tank.

Construction Staging

Approximately 10 workers would be on-site for the duration of construction. DSRSD identified four potential locations for construction staging (Figure 3). Staging areas consist of paved parking lots adjacent to the proposed action alignments that are routinely used for vehicles and/or construction equipment.

Construction Schedule

Construction of the proposed action is anticipated to occur between June and December 2015. All ground disturbing activities are expected to be complete by October 2015. It is possible that different segments would be constructed simultaneously at up to three locations on any given day. The rate of construction is expected to be between 300-500 feet per day per location. Approximately 100 feet of existing roadway would be disturbed at any given time at each location. No more than 50 feet of that distance would be associated with an open trench; the remaining 50 feet would be associated with active pipe laying and paving activities.

2.1.4 Proposed Action Operation

The recycled water that would be delivered to customers under the proposed action would be produced at the Recycled Water Treatment Facility located at 7399 Johnson Drive in the City of Pleasanton, approximately 2 miles south of the proposed action. Allowable uses for disinfected tertiary treated water that meet the requirements of Title 22 of the California Code of Regulations (CCR) include irrigation of food crops, parks and playgrounds, school yards, residential landscaping, unrestricted access golf courses, and other approved irrigation and recreational impoundments. Other permitted uses include toilet flushing, firefighting, industrial processes, dust control, and cooling towers. DSRSD's continuous water quality testing program indicates that the recycled water produced at the Recycled Water Treatment Facility meets or exceeds all regulatory requirements for water reuse 99 percent of the time (DERWA 2010).

The current plant capacity allows for flow of up to 12.2 million gallons per day (MGD) of recycled water, or an equivalent of 13,675 acre-feet per year, and the average flows in 2015 are 2.8 MGD with a minimum of 0.2 MGD and a maximum of 5.85 MGD. Therefore,

implementation of the proposed action would not affect the ability of the plant to meet demand in the future.

Once installed, operation of the recycled water distribution system would be similar to operation of the existing potable water distribution system. Signs would be posted to notify the public of areas where recycled water is being used.

2.2 No-Action Alternative

Under the No-Action Alternative, Reclamation would not provide partial funding to DSRSD for the proposed action. If Title XVI funds are not available, DSRSD may construct some portion of the proposed action using DSRSD and/or State funds, if they are available. However, in the current economic climate, it is unknown if those funds would be adequate to construct the proposed action in its entirety. As such, in this EA, the No-Action Alternative evaluates the future if the proposed action is not implemented.

2.3 Environmental Protection Measures

DSRSD would implement the following environmental protection measures to reduce potential environmental consequences associated with the Proposed Action (Table 2).

Figure 3 Potential Construction Staging Areas

Chapter 3. Affected Environment & Environmental Consequences

This chapter describes existing conditions within the action area and the environmental consequences of implementing the proposed action and No-Action Alternative. The action area considered in this assessment includes the proposed distribution pipeline alignments and an adjacent 50-foot buffer, all access roads necessary for construction, potential construction staging areas, and other areas that may be temporarily disturbed during construction (e.g., bore pit locations). For some resource areas (e.g., air quality), the action area has been expanded to represent a larger area where the effects of the proposed action may be realized. In those cases, the larger action area boundary is defined within the resource area discussion.

The following resource areas are not considered further in this EA because the proposed action would have no potential to affect them.

- Agricultural Resources. The proposed action is located entirely within an urban area. No agricultural resources are located within or near the proposed action footprint, and reuse of recycled water associated with the proposed action would have no impact on the availability of irrigation water for agricultural activities.
- Mineral Resources. No mineral deposits or mineral extraction areas are located in the action area or identified in the City of Dublin's General Plan (City of Dublin 2013).
- Groundwater Supplies. No elements of the proposed action would deplete groundwater supplies, and installation of the pipelines would not prevent percolation of water into the underlying groundwater table. An analysis of the effects of the application of recycled water delivered by the proposed action pipelines was considered in the SRVRWP EIR (DERWA 1996). As described in detail in that document, the action area is underlain by the Fringe Basin/Dublin subbasin groundwater aquifer. Unlike the Main Basin located south of the action area, water quality in the Fringe Basin is generally poor. As such, groundwater from the Fringe Basin is not used as a municipal water source; any potential salt loading of the aquifer from the application of recycled water within this groundwater basin would have no effect on municipal water supplies. Further, application of recycled water within the action area would not result in salt loading of the Main Basin because Alamo Canal, which conveys water from the drainages within the action area, is underlain by impervious clay layers that effectively isolate the groundwater aquifer from the creek. Since no percolation can occur, the proposed action would have no impact on groundwater quality.
- Indian Sacred Sites. Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency

of the existence of such a site." The Proposed Action would not affect and/or prohibit access to, and ceremonial use of Indian sacred sites.

3.1 Biological Resources

3.1.1 Affected Environment

The action area is located in the City of Dublin, Alameda County, California, on the Dublin U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle, near the boundary of the San Francisco Bay Area and the San Joaquin Valley subregions of the California Floristic Province (Baldwin et al. 2012) and within the Alameda Creek Watershed.

The action area consists primarily of paved roads with adjacent ornamental landscaping. Vegetation within and adjacent to the action area consists of street trees, landscaped areas (i.e. lawns), ruderal vegetation, and ornamental vegetation. Ornamental plant species present around rural residential and agricultural developments include mulberry (*Morus albus*), elm (*Ulmus pumila*), ash (*Fraxinus* sp.), Lombardy poplar (*Populus nigra 'Italica'*), blue gum (*Eucalyptus globulus*), and plum (*Prunus* sp.). Within the action area there are two natural communities: open water habitat and mixed riparian woodland habitat. These communities are described in more detail below.

3.1.1.1 Habitats

Open Water Habitat

The USGS Dublin 7.5 minute topographic quadrangle map covering the action area identifies four small intermittent flowing streams that drain from hills located west of central Dublin (i.e., Dublin Creek, Koopman Canyon, Clark Canyon, and Big Canyon) and Martin Canyon Creek. All of these streams have been channelized where they enter residential areas of the city, and all flow to a central concrete drainage channel adjacent to the west side of the I-680 alignment that drains south to join the channelized Alamo Canal. The action area also includes unnamed flood control channels on Amador Valley Boulevard, including the large concrete channel adjacent to the west side of I-680, and a small channel east of I-680 and Village Parkway. These two features are largely devoid of vegetation and function to convey flood water into larger features such as Alamo Canal and South San Ramon Creek.

Mixed Riparian and Woodland Habitat

There is a small amount of mixed riparian and woodland habitat within the action area located adjacent to Martin Canyon Creek and Mape Memorial Park, east of San Ramon Road. This habitat type is characterized by mostly open canopy with native and non-native trees of varying maturity and size. Dominant shrubs typically include blue elderberry (*Sambucus mexicana*), red wilow (*Salix laevigata*), and Himalayan blackberry (*Rubus discolor*). Dominant trees include big-leaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), and coast live oak (*Quercus agrifolia*).

3.1.1.2 Special-Status Species

For the purposes of this EA, special-status plant and wildlife species are defined as those species listed as endangered, threatened, or proposed for listing under the Federal Endangered Species

Act (ESA), as amended (Code of Federal Regulations [CFR], Title 50, Section 17), and/or birds protected under the Migratory Bird Treaty Act (MBTA) (16 U.S. Code [USC] 703-712). As summarized below, a limited number of special-status plants and wildlife species have the potential to occur within the action area. No suitable habitat for special-status species occurs within the existing roads where the majority of the recycled water pipelines would be located.

Table 2 and Table 3 provide a summary of the status and habitat requirements for each of the federally-listed species with potential to occur in the action area. Species only protected under the MBTA (i.e., not federally-listed under the ESA) are not listed in Table 3 because most bird species occurring in California fall under the protection of the MBTA. The lists in Table 2 and Table 3 are a compilation of species obtained from the U.S. Fish and Wildlife Service (USFWS) species list for Alameda County (USFWS 2015), a search of the California Natural Diversity Database (CNDDB) (CDFW 2015), relevant literature, knowledge of regional biota, existing data from regional experts, and observations made during field investigations. The potential for each species to occur in the action area was evaluated in consideration of site-specific conditions. Based on that evaluation, each species was placed into one of four categories, as defined below and indicated in Table 2 and Table 3.

- **None** indicates that the action area contains a complete lack of suitable habitat, the local range for the species is restricted, and/or the species is extirpated in this region.
- **Not Expected** indicates situations where suitable habitat or key habitat elements may be present but may be of poor quality or isolated from the nearest extant occurrences.
- **Possible** indicates the presence of suitable habitat or key habitat elements that potentially support the species.
- **Present** indicates the target species was either observed directly or its presence was confirmed by diagnostic signs during field investigations.

Table 2 Federally-Listed Plant Species with Potential to Occur in the Action Area

Scientific Name / Common Name	Listing Status[1]	Land Cover Type	Potential for Occurrence
Amsinckia grandiflora large-flowered fiddleneck	Fed: FE State: CE	non-native annual grassland	None
Cordylanthus palmatus palmate-bracted bird's beak	Fed: FE State: CE	alkali wetland alkali sink	None
Lasthenia conjugens Contra Costa goldfields	Fed: FE State: None	alkali wetland alkali sink non-native annual grassland vernal pools	None

[1]**Explanation of State and Federal Listing Codes**

FEDERAL

FE = Listed as Endangered by the USFWS

STATE

CE = Listed as Endangered by the State of California

Table 3 Federally-Listed Wildlife Species with Potential to Occur in the Action Area

Scientific Name / Common Name	Listing Status[1]	Habitat Requirements	Habitat Suitability and Local Distribution	Potential for Occurrence
Invertebrates				
Branchinecta Lynchi Vernal pool fairy shrimp	Fed: FT, CH State: none	Inhabit clear to tea-colored freshwater vernal pools in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands.	No suitable habitat within action area. No documented occurrences of this species from within 1-mile of action area.	None
Branchinecta conservatio Conservancy fairy shrimp	Fed: FE State: none	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools located in swales formed by old, braided alluvium, filled by winter/spring rains that last until June.	The action area is located outside of the species' known range.	None
Branchinecta longiantenna Longhorn fairy shrimp	Fed: FE, CH State: none	Endemic to the eastern margins of the Central Coast Mountains in seasonally astatic grassland vernal pools; specifically, small, clear-water depressions in sandstone and clear-to-turbid clay/grass-bottomed pools in shallow swales.	No suitable habitat within action area. No documented occurrences of this species from within 1-mile of action area.	None
Euphydryas editha bayensis Bay checkerspot butterfly	Fed: FT, CH State: none	A California endemic butterfly restricted to serpentine and similar habitats. Host plant is the dwarf plantain (*Plantago erecta*).	Action area does not contain suitable serpentine habitat for this species. Species is considered extirpated from Contra Costa and Alameda counties.	None
Fish				
Oncorhynchus mykiss irideus Steelhead Central California Coast ESU	Fed: FT, CH State: none	An anadromous fish that spends several years in the ocean, returning to freshwater rivers and tributaries to spawn and rear.	Steelhead not currently known from action area.	None
Amphibians				
Ambystoma californiense California tiger salamander Central California DPS	Fed: FT, CH State: SSC	A large terrestrial salamander that inhabits seasonal/semi-permanent water sources (3-4 months in duration) and adjacent upland habitat with small fossorial mammal activity in lowland grasslands, oak savannah and mixed woodlands.	No suitable aquatic or adjacent upland habitat within action area. Critical Habitat has been designated by USFWS in Collier Canyon, east of action area.	None

Scientific Name / Common Name	Listing Status[1]	Habitat Requirements	Habitat Suitability and Local Distribution	Potential for Occurrence
Rana aurora draytonii California red-legged frog	Fed: FT, CH State: SSC	A medium-sized frog that inhabits lowlands & foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation up to 1,500 meters in elevation.	No suitable breeding or aquatic habitat within action area. Critical Habitat has been designated by USFWS in Collier Canyon, east of action area.	None
Reptiles				
Masticophis lateralis euryxanthus Alameda whipsnake	Fed: FT, CH State: ST	The Alameda whipsnake is a subspecies of the California whipsnake, (*Masticophis lateralis)*. Inhabits valleys, foothills, and low mountains associated with northern coastal scrub or chaparral habitat; requires rock outcrops for cover and foraging.	No suitable habitat or documented occurrences from action area.	None
Birds				
Falco peregrinus American peregrine falcon (nesting)	Fed: FD State: SE, FP	Typically a year-round resident in California and most common along the coast. Nests on cliffs, but frequently uses man-made structures such as bridges and buildings. Nests are generally located close to water bodies with abundant avian prey.	No suitable nesting habitat present in action area. No documented nesting from action area.	None
Haliaeetus leucocephalus Bald eagle (nesting & wintering)	Fed: FD State: SE, FP	Winters at lakes, reservoirs, river systems and some rangelands and coastal wetlands. Nests in large conifers near aquatic sources.	No suitable nesting/wintering habitat present in the action area.	None
Mammals				
Vulpes macrotis mutica San Joaquin kit fox	Fed: FE State: ST	Inhabits annual grasslands or grassy open stages with scattered shrubby vegetation; needs loose-textured sandy soils for burrowing, as well as a suitable prey base.	Action area does not contain suitable habitat or known occurrences of this species. Nearest occurrence from Brushy Peak and East Altamont Hills 20 miles northeast of action area (CDFW 2015).	None

DPS – Distinct Population Segment

[1]**Explanation of State and Federal Listing Codes:**

Federal listing codes:	California listing codes:
FE – Federally listed as Endangered	SE – State listed as Endangered
FT – Federally listed as Threatened	ST– State listed as Threatened
FD – Federally delisted	SSC– California Species of Special Concern
CH – Critical Habitat (Proposed or Final) is designated	FP – Fully Protected

Special-Status Plants

There is no suitable habitat for federally-listed plants within the action area (Table 2). The roadways and shoulders associated with the action area are completely developed, routinely disturbed, or landscaped and do not provide conditions to support native plants. The four potential staging areas do not provide high quality habitat for special-status plants as they consist of ruderal vegetation and are routinely disturbed. The section of Martin Canyon Creek within the action area is heavily disturbed and the bank is paved and developed. Adjacent to the creek and within the riparian corridor are parking lots, residences, a public park, a school and a storage facility.

Special-Status Fish

The action area does not contain suitable habitat for special-status fish species (Table 3). There are no occurrences of sensitive or locally rare fish species within 1-mile of the action area (CDFW 2015). Martin Canyon Creek was dry in February 2015 and supports intermittent flows.

Special-Status Wildlife

The developed roads, medians, road shoulders and landscaped parks and schools within the action area do not provide habitat suitable to support federally-listed wildlife species (Table 3). No federally-listed wildlife species were observed during the 2012-2013 field surveys and the action area is not located within federally designated critical habitat (Vinnedge Environmental Consulting 2013).

As described below, suitable nesting habitat for birds protected under the MBTA is present in trees and riparian habitat adjacent to the action area.

Special-Status Amphibians

The action area does not contain suitable habitat for special-status amphibian species (Table 3). The federally-threatened California tiger salamander (*Ambystoma californiense*) and California red-legged frog (*Rana draytonii*) have not been detected within 1-mile of the action area (CDFW 2015). California tiger salamanders require two major habitat components: aquatic breeding sites with large contiguous areas of vernal pools or comparable aquatic breeding habitats with multiple breeding ponds, and nearby terrestrial aestivation or refuge sites, none of which occur within the action area. California red-legged frogs are found in aquatic sites that support substantial riparian and aquatic vegetation and lack non-native predators. Martin Canyon Creek within the action area is heavily disturbed, contained no water in February 2015 and is completely surrounded by development. In general, flood control channels within the action area lack emergent vegetation and the banks of Martin Canyon Creek are steep, vegetated with non-native grass, and contain little to no suitable habitat for over-wintering frogs. Furthermore, presence of extensive numbers of bullfrogs (*Rana catesbeiana*) and other introduced aquatic predators, such as introduced largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), western mosquitofish (*Gambusia affinis*), and Louisiana red-swamp crayfish (*Procambarus clarkii*), have resulted in habitat conditions unsuitable for native amphibians.

Special-Status Reptiles

The action area does not contain suitable habitat for special-status reptile species (Table 3). There are several occurrences of the federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) within 5-miles of the action area (south and west) in the Pleasanton Ridge area; however all occurrences are south of I-580. In addition, the potential for Alameda whipsnake to occur in the action area was ruled out based on the lack of suitable habitat: rock outcrop and grassland.

Special-Status Birds

There are several species of birds protected under the MBTA with potential to occur in or adjacent to the action area, including Cooper's hawk (nesting), sharp-shinned hawk (*Accipiter striatus*), merlin (*Falco columbarius*, wintering), western burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), olive sided flycatcher (*Contopus cooperi*), California horned lark (*Eremophila alpestris actia*), grasshopper sparrow (*Ammodramus savannarum*), lark sparrow (*Chondestes grammacus*, nesting), yellow warbler (*Dendroica petechia brewsteri*, nesting), Nuttall's woodpecker (*Picoides nuttallii*, nesting), Allen's hummingbird (*Selasphorus sasin*, nesting), loggerhead shrike (*Lanius ludovicianus*), Lawrence's goldfinch (*Carduelis lawrencei*) and California thrasher (*Toxostoma redivivum*). None of these birds were detected during the field survey in 2013 and none have been recorded within 1-mile of the study area.

3.1.2 Environmental Consequences

3.1.2.1 Proposed Action

Construction noise and temporary ground disturbing activities have the potential to impact wildlife and their habitat within the action area. Operation of the proposed action could also modify soil salinity and effect existing vegetative communities, as described below.

Impact BIO-1 – Disturbance to Nesting Birds during Construction

Suitable nesting habitat for migratory birds and raptors is present within and adjacent to the action area. Implementation of the proposed action could temporarily affect common bird species and/or their nests through loss of available nesting habitat and noise disturbance during construction activities. Implementation of Mitigation Measure BIO-1, below, would reduce the potential for construction-related effects on nesting birds.

Mitigation Measure BIO-1 – Conduct Preconstruction Nesting Bird Surveys, Establish No-Disturbance Buffers, and Revegetate Disturbed Areas

The following measures would be implemented by DSRSD or their contractors prior to, during, and after construction of the proposed action.

1. If construction of the proposed action begins during the breeding season (February 1st to August 31st), preconstruction nesting bird surveys would be conducted within suitable habitat by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities. If no active nests are found within the action area, no further mitigation is necessary.
2. If active nests (i.e., nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the proposed action footprint for raptor (birds of prey) species or 100 feet of the proposed action footprint for all other bird species, no-disturbance buffers

should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance, and the type/duration of potential disturbance. Work within no-disturbance buffers should be rescheduled to occur after the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with CDFW and USFWS.

3. If rescheduling of work is infeasible and no-disturbance buffers cannot be maintained, a qualified biologist should be on site to monitor active nests for signs of disturbance. If it is determined that proposed action-related activities are resulting in nest disturbance, work should cease immediately and CDFW and USFWS should be contacted for further guidance.
4. Tree removal, pruning, grubbing, grading, or other construction activities conducted outside of the breeding season (i.e., September 1st to January 29th) do not require preconstruction surveys.
5. All areas along the proposed alignment disturbed by construction shall be reseeded as a soon as possible after construction (but before fall rains) with a grass and forb mixture to reduce erosion hazards. All reseeding should be completed with a native grass and forb mixture. If landscaped vegetation is removed along existing roads or residences, it shall be replaced in kind at a 1:1 ratio with appropriate landscaping species.

Impact BIO-2 – Impact of Recycled Water on Vegetation

Recycled water can have a higher concentration of dissolved salts than potable water. With long-term use, the application of recycled water for irrigation purposes can increase the concentration of salts in the root zone, potentially affecting plant growth and/or damaging foliage. These impacts can result from an increase in the total amounts of salts in the water and irrigated soil (salinity), or from an increase in the concentration of certain individual salts, such as sodium, chloride, or boron. Of these, sodium is the only constituent that may occur in high enough concentrations in DSRSD recycled water to impact vegetative growth when applied for irrigation purposes (DERWA 1996).

Plants exhibit varying degrees of tolerance to increased salinity and sodium levels in the root zone. The principal plants grown within the customer sites associated with the proposed action are turf grasses, ornamental trees, shrubs, and ground covers. Given the wide variety of plant species present, it is not practical to predict the response of all species to the application of recycled water. As a result, a description of the anticipated response of general landscape plantings to changes in salinity and sodium are provided below.

- Salinity. Increased salinity levels can diminish plant growth and potentially result in plant mortality. As described in the SRVRWP EIR (DERWA 1996), levels of soil salinity greater than 4 millimhos per centimeter (mmhos/cm) should be avoided. This soil salinity level would be comparable to an irrigation water salinity level of about 2.5 to 3.0 mmhos/cm (DERWA 1996).

  The average salinity of DSRSD recycled water is approximately 1.3 mmhos/cm (DERWA 2010). With water of this quality, a minimal reduction in top growth may occur on a few very sensitive landscape species. This impact is not anticipated to impair the appearance of these species, which is typically the primary purpose of ornamental

plants. Turf grasses are not expected to be affected by irrigation water salinity (DERWA 1996).

- Sodium. High sodium levels in irrigation water can have two types of impacts. If the sodium adsorption ratio (SAR, a measure of the relationship between sodium, calcium, and magnesium) of the water is high, it can cause soil particles to disperse, which slows the infiltration of water into the soil. Special management practices may be necessary if the SAR of the water is greater than about 7 to 8 units (DERWA 1996). High sodium levels can also result in direct damage (e.g., wilting or discolored leaves) to highly sensitive ornamental landscape plants. A sodium level in the water greater than about 150 milligrams per liter (mg/L) could cause plant damage (DERWA 1996).

  The average sodium concentration in DSRSD recycled water is about 150 mg/L and the SAR of the water is about 4.2 units (DERWA 2010). Based on available data, only a few woody ornamental species would be likely to be affected by increased levels of sodium in the root zone or on their leaves. Turf grasses should not be affected by these levels of sodium (DERWA 1996).

Implementation of Mitigation Measure BIO-2 would ensure that the application of recycled water to customer sites within the action area would have a minimal impact on existing vegetation.

Mitigation Measure BIO-2 – Irrigation Water Application Best Management Practices

The following irrigation water application best management practices (BMP) shall be implemented at customer sites under the supervision of DSRSD:

- All site managers shall be properly trained in the use of recycled water for landscape irrigation. Training shall include instruction on the appropriate quantity of irrigation water to apply to ensure adequate leaching of accumulated salts from the root zone during times when precipitation is below average.
- All customer sites shall be maintained to allow adequate surface drainage without allowing excess quantities of recycled water to drain offsite.
- Site managers shall be required to monitor the health and appearance of vegetation being irrigated with recycled water and identify any adverse effects, including a substantial reduction in growth or plant mortality.
- As necessary and depending on the exact cause of the impact (e.g., poor drainage, poor soil structure or chemistry), one of the following additional measures may be implemented if adverse effects on on-site vegetation are observed:
  - Amend the soil or irrigation water, as appropriate. For example, a calcium amendment may help prevent the breakdown of the soil structure and the consequent reduction of permeability.
  - Replace salt-intolerant plants with salt-tolerant plants.

Impact BIO-3 – Impacts to Waters of the U.S.

Although the proposed action would not encroach or disturb open water or seasonal wetland habitat in the action area, Mitigation Measure BIO-3 would be implemented to ensure that all wetland habitats adjacent to or near the action area are avoided during construction.

Mitigation Measure BIO-3 - Avoid Disturbance of Waters of the U.S., Including Wetland Communities

The proposed action has been designed to avoid direct impacts on waters of the U.S. and wetland habitats. DSRSD and the construction contractor shall avoid and minimize indirect and/or unintentional impacts on wetlands and other waters of the U.S. (creeks, steams, and rivers) by implementing the following measures.

- Waters of the U.S., including wetland habitats, which occur near the action area, would be protected by installing environmentally sensitive area fencing at least 20 feet from the edge of the water/wetland. Depending on site-specific conditions, this buffer may be wider than 20 feet to prevent erosion and sedimentation impacts on wetland habitat. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive area.
- Where determined necessary by resource specialists, geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) shall be used in saturated conditions to minimize damage to the substrate and vegetation.

These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, DSRSD shall ensure that the contractor incorporates all permit conditions into construction specifications.

3.1.2.2 No-Action Alternative

There would be no potential impacts on biological resources under the No-Action Alternative because the proposed action would not be constructed and construction-related impacts would not be realized. Potential effects on plant growth or longevity would also not be realized because potable, rather than recycled water would be used for irrigation purposes.

3.2 Surface Water and Drainage

3.2.1 Affected Environment

3.2.1.1 Surface Hydrology

The action area lies within the Alameda Creek watershed, which is generally defined by Altamont Pass (near Livermore) to the east, Mount Diablo to the north, Mount Hamilton to the south, and its outlet to San Francisco Bay in Union City on the west. The northern portion of the watershed, which encompasses the action area, consists of the predominantly developed Livermore-Amador Valley and includes the Alamo Creek/Canal, Tassajara Creek, and Arroyo las Positas subbasins.

3.2.1.2 Flood Zones

None of the proposed facilities would be located within the 100-year flood plain, as defined by the Federal Emergency Management Agency (FEMA) and mapped on the 1983 Flood Insurance Rate Map (FIRM) provided in the City of Dublin's General Plan (City of Dublin 2013). All proposed facilities would be located within the 500-year FEMA floodplain.

3.2.1.3 Surface Water Quality

The Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for surface water and groundwater resources in the basin, including Alamo Creek (RWQCB 2013). The Basin Plan contains specific numeric water quality objectives that apply to certain water bodies or portions of water bodies in the basin, including objectives for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, total dissolved solids, temperature, turbidity, and trace elements. The Basin Plan also contains narrative water quality objectives generally intended to specify broad goals and minimum acceptable conditions. Finally, the Basin Plan specifies numerical groundwater quality objectives that are derived and equivalent to the Title 22 drinking water standards (RWQCB 2013).

3.2.2 Environmental Consequences

3.2.2.1 Proposed Action

Implementation of the proposed action would not involve substantial alterations of existing drainage patterns within the action area. All pipeline trenches and areas of ground disturbance would be restored to original grade, maintaining preconstruction drainage characteristics. In areas where the pipeline would be located under pavement, the pavement would be replaced as part of the construction process. In areas where the pipeline would traverse vegetated areas, those areas would be re-vegetated as necessary to prevent erosion. No additional impermeable surfaces that could contribute to area flooding are proposed. Temporary construction-related impacts on water quality are described below.

From an operational perspective, there are typically two constituents of concern relative to the application of recycled water: organics and pathogens. Two pathogens of concern are cryptosporidium and giardia. Both of these pathogens are effectively removed through the recycled water treatment process (see Section 2.2.4, Project Operation) to levels that are less than existing detection limits. Both pathogens and organics are also filtered out of the recycled water as it passes through the soil structure. The net effect of both the treatment and adsorption/absorption/filtration processes are that all trace organics and pathogens of concern are removed prior to entering surface waters. As a result, operation of the proposed action would have no effect on surface waters.

Impact HYD-1 – Construction-Related Water Quality Impacts

Construction of the proposed action could leave soils exposed to rain or surface water runoff that may carry soil contaminants (e.g., nutrients, metals, hydrocarbons, or other pollutants) into waterways adjacent to the action area, degrading water quality and potentially resulting in a violation of water quality standards.

Mitigation Measure HYD -1 – Implement Best Management Practices

To minimize construction-related water quality impacts, DSRSD and their contractors would implement BMPs in accordance with the Construction General Permit administered by the SWRCB. Examples of construction BMPs include the following and would be documented in an approved Storm Water Pollution Prevention Plan (SWPPP):

- Place temporary devices, such as straw, biodegradable fiber, or sandbags to intercept sheet flow runoff and settle sediment through the barriers.
- Implement dust control measures to keep the amount of airborne dust particles to a minimum and to reduce erosion and airborne pollutants during the time between site disturbance and paving or re-vegetation.
- Implement measures to prevent construction equipment or vehicles from tracking sediments out of a work site onto paved roadways.
- Conduct all maintenance activities in a designated area designed to contain spills and prevent run-on or run-off.

3.2.2.2 No-Action Alternative

There would be no potential impacts on surface water or drainage under the No-Action Alternative because no construction activities would occur.

3.3 Geology, Soils and Seismicity

3.3.1 Affected Environment

The most recent U.S. Department of Agriculture Soil Conservation Service (SCS) soil survey for Alameda County was completed in 1966. All of the soils within the action area are mapped by the SCS as "Group D" soils, or soils that have a very slow infiltration rate resulting in a slow rate of water transmission. This characteristic generally indicates a higher potential for surface water runoff. However, since these surveys, extensive urban development of the action area has occurred. Importation of fill material and/or the movement and redistribution of soil during development has resulted in surface soils and soil profiles that are no longer entirely representative of those logged in the SCS surveys (DERWA 1996).

The action area lies within the hills of the California Coast Range and along the San Andreas fault system. The Calaveras Fault, which lies parallel to San Ramon Boulevard and just west of the action area, is the major active fault with rupture potential in the action area. The Pleasanton Fault, considered a minor active fault, also traverses the action area, although it is difficult to locate precisely (City of Dublin 2013). The State Division of Mines and Geology has established Alquist-Priolo Special Study Zones along both faults, requiring detailed studies of rupture hazards prior to construction in those areas. Preliminary Special Study Zones are also designated with the action area, which can trigger the need to complete a fault rupture evaluation if multifamily dwellings or public or recreational facilities are proposed for construction (City of Dublin 2013). All of the proposed facilities on the east side of the Iron Horse Trail (those associated with Stagecoach Park, Alamo Creek Park and Amador Lakes Apartments) would be located within a Preliminary Special Study Zone. Alamo Creek Park facilities would also be located within an Alquist-Priolo Special Study Zone (City of Dublin 2013).

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

Construction-related impacts on soils under the proposed action are described below. Please refer to Section 3.2, Biological Resources, Impact BIO-2–Impact of Recycled Water on Vegetation, for a discussion of the effect of potential changes in soil salinity associated with the application of recycled water.

Impact GEO-1 – Earthquake Damage to Facilities

Facilities associated with the proposed action could be affected by moderate to strong ground shaking from major earthquakes during the life of the proposed action. Due to the close proximity of the Calaveras Fault, a major earthquake along this fault (or other currently inactive faults in the general vicinity) could produce severe ground shaking at sites within the action area.

Mitigation Measure GEO-1 – Design Proposed Action to Meet Seismic Requirements

DSRSD would ensure that all facilities associated with the proposed action conform to the most recent editions of the Uniform Building Code, the California Building Code, and the Seismic Safety element of the City of Dublin's General Plan and grading ordinance. In particular, Alamo Creek Park facilities, which would be located within the Alquist-Priolo Special Study Zone, would be designed to accommodate the maximum expected offset from fault rupture.

3.3.2.2 No-Action Alternative

There would be no potential impacts on geology or soils under the No-Action Alternative because no new infrastructure would be constructed. Similar to the proposed action, existing infrastructure delivering potable to water to customer sites would also be subject to ground shaking should it occur.

3.4 Air Quality

3.4.1 Affected Environment

3.4.1.1 Ambient Air Quality

The action area is located within the Diablo Valley-San Ramon climatic sub-region of the San Francisco Bay Area Air Basin (Air Basin). Air pollutants are regulated at the national, state, and air basin level: the U.S. Environmental Protection Agency (EPA) regulates air pollutants at the national level, the California Air Resources Board (CARB) regulates air pollutants at the state level, and the Bay Area Air Quality Management District (BAAQMD) regulates air pollutants at the regional level. Currently, the Air Basin is a non-attainment area (i.e., a region where established ambient air quality standards are not met) for ozone, particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The Air Basin attains all other national and California ambient air quality standards.

A detailed description of the regional and local climate is contained in the Western Dublin Recycled Water Distribution Facilities Expansion Project Air Quality and Greenhouse Gas Emission Analysis for the proposed action (RCH Group 2013). Project specific air quality analysis was performed using the methodologies and significance thresholds recommended in BAAQMD CEQA Air Quality Guidelines (Guidelines; BAAQMD 2012). The criteria air

pollutants evaluated in this analysis include: reactive organic compounds (ROG) and nitrogen dioxide (NO_2) (both being precursors to ozone formation), PM_{10}, and $PM_{2.5}$. This analysis also considered greenhouse gas (GHG) emissions under the proposed action, and the potential for health risks associated with exposures to $PM_{2.5}$ from diesel-powered construction equipment used to implement the proposed action (diesel particulate matter [DPM] is considered a major toxic air contaminant [TAC] and is subject to substantial environmental control efforts locally and statewide). Results of this analysis are provided below.

Clean Air Act – General Conformity Rule

The General Conformity Rule of the Federal Clean Air Act (42 USC 7401) requires that Federal agencies ensure that their actions do not cause or contribute to a violation of national ambient air quality standards and that they are consistent with the State Implementation Plan to meet those national standards. The General Conformity Rule specifies de minimis thresholds for ROG / volatile organic compounds (VOC), nitrogen oxides (NO_x), carbon monoxide (CO), and other regulated pollutants based on the severity of an area's nonattainment with the Federal standards. For the Bay Area Air Basin, the de minimis thresholds are 50 tons per year of ROG (or VOC), 100 tons per year of NO_x, and 100 tons per year of CO; these emissions can be from direct and indirect sources. If project emissions are less than de minimis thresholds, additional analysis regarding project conformity is not required.

According to the Guidelines, any project would have a significant potential for causing/contributing to a local air quality standard violation or making a cumulatively considerable contribution to a regional air quality problem if its criteria pollutant emissions would exceed any of the thresholds during construction or operation as presented in Table 4.

Table 4 BAAQMD Air Quality Significance Thresholds for Criteria Air Pollutant Emissions

		Operational	
Pollutant	**Construction Average Daily (lbs./day)**	**Average Daily (lbs./day)**	**Maximum Annual (tons/year)**
Reactive Organic Gases (ROG)	54	54	10
Nitrogen Oxide (NO_x)	54	54	10
Inhalable Particulate Matter (PM_{10})	82 (exhaust)	82	15
Fine Inhalable Particulate Matter ($PM_{2.5}$)	54 (exhaust)	54	10
PM_{10}/$PM_{2.5}$ (Fugitive Dust)	BMP[a]	N/A	N/A

Source: BAAQMD 2012

Notes:

N/A = Not Applicable

[a] If BAAQMD Best Management Practices (BMP) for fugitive dust control are implemented during construction, the impacts of such residual emissions are considered to be less than significant.

The Guidelines also establish a relevant zone of influence for an assessment of health risk from pollutant exposure to an area within 1,000 feet of a project site. Construction-related or operational TAC impacts to sensitive receptors within the zone that exceed any of the following thresholds are considered significant:

- An excess cancer risk level of more than 10 in one million, or a non-cancer hazard index greater than 1.0.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) for annual average $PM_{2.5}$ concentrations.

Finally, the Guidelines establish a project operational significance threshold for GHG emissions of 1100 metric tons of carbon dioxide (CO_2) per year, but no significance threshold for construction GHG emissions.

The BAAQMD adopted its 2010 Bay Area Clean Air Plan (CAP) in accordance with the requirements of the California Clean Air Act to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter and air toxics in a single, integrated plan; and establish emission control measures to be adopted or implemented. The primary goals are to:

- Attain/maintain air quality standards;
- Reduce population exposure to air pollutants and protect public health in the Bay Area.

Compliance with BAAQMD-approved CEQA thresholds of significance are the conditions for determining that a project would be consistent with all adopted control measures and would not interfere with the attainment of CAP goals.

3.4.1.2 Greenhouse Gases and Climate Change

Climate change is a change in the average weather of the earth that is measured by changes in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes that have occurred in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

Climate change is caused by GHG emitted all around the world from a variety of sources, such as the combustion of fuel for transportation and heat, cement manufacturing, and refrigerant emissions. In December 2009, EPA adopted two distinct findings regarding GHG under Section 202(a) of the Clean Air Act (Findings). The Findings state that the current and projected concentrations of the mix of six key GHGs—CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6)—in the atmosphere threaten the public health and welfare of current and future generations. The Findings state that the combined emissions of CO_2, CH_4, N_2O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key GHGs and hence represent a threat to public health and welfare. The Findings do not impose any requirements on industry or other entities, but demonstrate EPA's authority to regulate GHGs under the Clean Air Act.

For California, climate change has the potential to incur/exacerbate the following environmental impacts (CAT 2006):

- Reduced precipitation;
- Changes to precipitation and runoff patterns;
- Reduced snowfall (precipitation occurring as rain instead of snow);
- Earlier snowmelt;
- Decreased snowpack;
- Increased agricultural demand for water;
- Intrusion of seawater into coastal aquifers;
- Increased agricultural growing season;
- Increased growth rates of weeds, insect pests and pathogens;
- Inundation of low-lying coastal areas by sea level rise;
- Increased incidents and severity of wildfire events; and
- Expansion of the range and increased frequency of pest outbreaks.

Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-lying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

3.4.2 Environmental Consequences

3.4.2.1 Proposed Action

Project construction would generate temporary emissions of criteria pollutants in diesel-powered equipment exhaust and fugitive dust from equipment and material movement. The Guidelines recommend quantification of construction-related exhaust emissions and comparison of those emissions to the CEQA significance thresholds. Accordingly, the California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) was used to quantify construction-related emissions of criteria pollutants under the proposed action. The following summarizes potential construction-related air quality impacts, including the potential generation of GHG.

From an operational perspective, the proposed action would reduce air pollutant and GHG emissions by reducing the distance that water would need to be pumped to irrigate customer sites within the action area.

Impact AQ-1 – Construction-Generated Air Pollutants in Diesel-Powered Equipment Exhaust

Construction emissions would likely vary day-to-day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions. It is highly unlikely that all construction activity types associated with the proposed action (e.g., trenching, excavation, pipe installation) would occur on the same day.

The average daily construction period emissions over the construction period were modeled and compared to the CEQA significance thresholds. Table 5 summarizes estimated short-term construction equipment, truck, and worker vehicle commute emissions under the proposed action. Model results summarized in this table reflect implementation of required BAAQMD

dust control measures during construction. As the analysis below demonstrates, the proposed action would not exceed BAAQMD emissions thresholds and would not result in significant air quality impacts during construction.

Table 5 Construction Criteria Pollutant Emissions under the Proposed Action

Construction Activity	Average Emissions (pounds per day)[1]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Excavation and Shoring	1.6	17.3	0.9	0.8
Horizontal Directional Drilling	0.6	6.5	0.3	0.3
Pipe Installation and Backfilling	1.2	10.9	0.7	0.6
Paving	0.2	1.6	0.1	0.1
Total Average Daily Emissions	**3.6**	**36.3**	**2.0**	**1.8**
BAAQMD Threshold	**54**	**54**	**82**	**54**
Exceed Threshold?	**No**	**No**	**No**	**No**

Ambient TAC concentrations (specifically $PM_{2.5}$ contained in diesel-powered construction equipment exhaust) produced by construction equipment could substantially affect sensitive receptors within 1000 feet of the locus of construction activity. However, the significance thresholds provided in the Guidelines for TACs are based on assumptions of exposure duration of a year or longer (i.e., a year for chronic non-cancer health impacts, 70 years for cancer risk). Given the specification that the proposed pipelines would be installed at the rate of 300 to 500 feet per day, TAC-emitting construction equipment would be within 1000 feet of any particular sensitive receptor for only 2-3 days at most. With these relatively short exposure periods, TAC health risks under the proposed action would be substantially below the health risk significance thresholds identified in the Guidelines.

Implementation of Mitigation Measure AQ-1 would further reduce the potential for adverse regional air pollutants during construction.

Mitigation Measure AQ-1 – Implement Air Quality Best Management Practices in Accordance with BAAQMD Guidance

The following air quality BMPs would be implemented by the construction contractor in accordance with BAAQMD guidance:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

[1] Model results reflect consideration of Mitigation Measure AQ-1 and restrictions on type of construction equipment.

- All visible mud or dirt tracked onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicles speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Impact AQ-2 – Construction-Generated Fugitive Dust

Construction of the proposed action would result in the generation of fugitive dust associated with disturbance of exposed soil and road dust entrained from vehicles transiting through construction sites. Implementation of Mitigation Measures AQ-1 would reduce the potential for adverse localized dust impacts during construction.

Impact AQ-3 – Construction-Related Greenhouse Gas Emissions

Construction of the proposed action would contribute to climate change impacts through its contribution of GHG. Construction-related GHG emissions would be associated with the exhaust of construction equipment and vehicles used to haul equipment and employees to and within the action area. Project construction would emit 24.4 metric tons of GHG over the course of the entire three-month construction period. This would be a one-time emission of GHG and BAAQMD criteria would not regard it as significant.

Because construction-related emissions would be finite in nature, below the minimum standard for reporting requirements under California State Assembly Bill 32, and because the BAAQMD does not have a construction-generated GHG threshold, the GHG emissions related to construction of the proposed action are not considered a cumulatively considerable contribution to global climate change.

Impact AQ-4 – Operational Greenhouse Gas Emission Reductions (Beneficial)

It is anticipated that operation-related air pollutant and GHG emissions would be reduced as a result of the proposed action. Although operation-related GHG emissions would result from electricity generated to treat and distribute recycled water, the overall distance to distribute (pump) water for irrigation purposes would be reduced. Currently, potable water is used to irrigate landscaping associated with the schools, parks, streetscapes and medians in the action area. Potable water is procured from a variety of sources, pumped to the general vicinity of the action area, treated and distributed to facilities as irrigation water. Similarly, recycled water is generated at DSRSD's wastewater treatment plant, which is located 3 miles south of the action area, and pumped out of the action area to meet other irrigation needs. Utilization of recycled water rather than potable water, to meet irrigation needs within the action area would reduce emissions associated with pumping, treatment and conveyance of potable water from sources farther away from the action area, as well as emissions associated with pumping recycled water to areas further away from the DSRSD wastewater treatment plant.

Use of recycled water to meet irrigation demand in the action area would offset the use of up to 203.1 acre feet (66.18 million gallons) of potable water each year and result in a reduction of GHG emissions of up to 118 metric tons of carbon dioxide equivalent ($MTCO_{2e}$) per year under the proposed action.

Impact AQ-5 – General Conformity

Total air pollutant emissions from construction of the proposed action would be far below the annual de minimis thresholds prescribed by BAAQMD (i.e., 50 tons for ROG, and 100 tons from NO_x and CO). Therefore, no further conformity analysis with respect to the Clean Air Act is required.

3.4.2.2 No-Action Alternative

As described above, continued use of potable water to irrigate lands within the action area would result in more substantial air pollutant and GHG emissions when compared to the use of recycled water for the same purposes, as prescribed under the proposed action. An additional 118 $MTCO_{2e}$ of GHG would be emitted per year to deliver potable water to irrigate proposed action facilities under the No-Action Alternative.

No construction-related air pollutant emissions would be associated with the No-Action Alternative.

3.5 Noise

3.5.1 Affected Environment

3.5.1.1 Ambient Noise Levels

Vehicular traffic on freeways and major thoroughfares is the primary source of noise in the action area. Other noise sources may include overflights from Livermore Airfield.

Ambient noise levels were not measured for the assessment in this EA. However, the City of Dublin General Plan contains projected noise exposure contours for the action area. Noise exposure contours were plotted for 1983 (based on noise measurements and traffic data) and projected to 2005 based on traffic volume increases. These contours represent ambient noise levels for 2005 and are presented in decibels (dB). The dB is a logarithmic unit that expresses the ratio of the sound pressure level being measured to a standard reference level. The majority of the action area is located within the 65 dB contour line, as shown on the 2005 Projected Noise Exposure Contours for the City of Dublin, with some portions located within the 60 dB contour line (City of Dublin 2013). Portions of the action area along Amador Valley Boulevard and Village Parkway are located within the 70 dB contour line (City of Dublin 2013).

The City of Dublin establishes specific hours during which construction activities are allowed. The hours depend in part on proximity to residential areas, and are part of the conditions of approval by the City for development. In general, the City allows construction on roadways to occur between 7:30 am and 5:00 pm.

3.5.1.2 Sensitive Receptors

For the purposes of this EA, a "sensitive noise receptor" is a land use in which there is a reasonable degree of sensitivity to noise. Such uses include single-family and multi-family

residential uses, schools, hospitals, churches, rest homes, cemeteries, and public libraries. Sensitive noise receptors within the action area include residential areas, schools, and churches, particularly those located along existing roadways where new recycled water pipelines would be installed.

3.5.2 Environmental Consequences

3.5.2.1 Proposed Action

Operation of the proposed action would not result in increased traffic or other noise-generating activities in the action area. Noise impacts associated with construction of the proposed action are described below.

Impact NOISE-1 – Construction-Related Noise Generation

Table 6 summarizes typical construction equipment noise levels. The proposed action would only produce noise during the construction phase and would not expose sensitive receptors to permanent, excessive noise levels. In addition, because construction activities would occur in a linear fashion, any one receptor would only be exposed to construction-generated noise for a short duration prior to activities continuing down the pipeline. Implementation of Mitigation Measure NOISE-1 would reduce construction-related noise impacts in and around sensitive noise receptors.

Table 6 Typical Construction Noise Generation

Construction Equipment	Noise Level (dBA)*
Front Loaders	79
Compressors	81
Cranes	83
Trucks	91
Pavers	89
Backhoes	85

Mitigation Measure NOISE-1 - Limit Timing and Equipment Used During Construction

The construction contractor would adhere to all local ordinances regulating hours of construction to minimize the potential for sleep disturbance and annoyance to sensitive noise receptors in the action area. As noted above, the City of Dublin typically requires that construction be limited to daytime hours (between 7:30 am and 5:00 pm). To minimize construction noise generation, all equipment shall be outfitted with mufflers equal or superior in noise attenuation to those provided by the manufacture of the equipment around stationary construction noise sources that are located in proximity to potentially sensitive noise receptors. In addition, idling equipment would be shut off.

3.5.2.2 No-Action Alternative

There would be no noise impacts under the No-Action Alternative because no construction-related noise would be generated.

3.6 Transportation / Traffic

3.6.1 Affected Environment

The action area is located within an existing developed community, primarily along roadways. The most prominent features of Dublin's transportation network are I-580, which forms the southern boundary of the City, and I-680, which bisects Central Dublin. Other major thoroughfares in and around the action area include Amador Valley Boulevard, San Ramon Road, and Dublin Boulevard. Amador Valley Boulevard, San Ramon Road, and Dublin Boulevard are all classified as main arterial roadways by the City of Dublin (City of Dublin 2013). San Ramon Road and Dublin Boulevard are considered Routes of Regional Significance in the Tri-Valley Transportation Council's Tri-Valley Transportation Plan and Action Plan (DKS 2014). This designation requires that the City make a "good faith effort" to maintain a Level of Service (LOS) D on arterial segments and at intersections. On all other roads in the action area, the City strives to "…phase development and road improvements so that the operating LOS for intersections shall not be worse than LOS D" (City of Dublin 2013).

There are also numerous existing bicycle facilities in the action area. Bicycle facilities are designated as Class I, Class II, or Class III bikeways, with Class I providing the least separation of cyclists from vehicular traffic and Class III providing the most.

3.6.1.1 Traffic Flow Requirements during Construction

The City of Dublin generally permits construction on roadways to occur between 7:30 am and 5:00 pm, and lane closures are permitted on main arterial roadways between 9:00 a.m. and 3:30 p.m. Specific requests for roadway work are individually considered based on their proximity to both residential areas and main arterial roadways, and require preparation of a traffic management plan prior to the start of construction.

3.6.2 Environmental Consequences

3.6.2.1 Proposed Action

The proposed action would not result in increased or additional traffic through the action area after construction is complete. Potential construction-related traffic and transportation service impacts are described below.

Impact TRANS-1 – Construction-Related Traffic Disturbance

The proposed action would result in construction activities within existing roadways, thereby temporarily reducing the capacity of those roadway segments during construction. Construction in existing roadways may also result in temporary closure of bike lanes and disruption of public transit services. The District will work with the City of Dublin to develop a traffic management plan that closely adheres to the City of Dublin guidelines, which generally permit construction on roadways to occur between 7:30 am and 5:00 pm, and lane closures are permitted on main arterial roadways between 9:00 a.m. and 3:30 p.m.

Implementation of Mitigation Measures TRANS-1 and TRANS-2 would minimize temporary, construction-related impacts on traffic and transportation resources.

Mitigation Measure TRANS-1 - Prepare Traffic Management Plan

DSRSD or its contractor shall prepare a traffic management plan for review and approval by the City of Dublin. The traffic management plan shall address bike and vehicle travel through construction zones and the use of flaggers and off-peak construction hours. Cones and/or other similar temporary traffic flow control devices would be used where necessary to establish bike and/or vehicle lanes through construction zones to protect bicyclists from construction activities and vehicle traffic, and to provide for adequate vehicle movement. Where vehicle lanes within heavily traveled roadways would be closed as a result of roadway crossings, lane closure plans should be employed in accordance with municipal traffic management requirements. Where the width of the roadway would preclude establishing temporary lanes in two directions, and where acceptable detour routes are not available, flaggers would be used to maintain two-way traffic flow.

Mitigation Measure TRANS-2 - Coordinate with Transit Providers

DSRSD shall coordinate with transit providers in the City of Dublin, including Bay Area Rapid Transit (BART), Livermore Amador Valley Transit (WHEELS), and the Alameda-Contra Costa Transit District, to temporarily relocate bus stops along roadways during construction and ensure uninterrupted service, as required.

Impact TRANS-2 – Displaced Access to Adjacent Properties

The proposed action may temporarily displace access to some private or commercial properties during trenching operations. Implementation of Mitigation Measure TRANS-3 would minimize this impact.

Mitigation Measure TRANS-3 – Notify Adjacent Property Owners of Construction Activities

DSRSD (or its contractor) shall notify adjacent property owners of construction schedules and develop a traffic management plan (Mitigation Measure TRANS-1) that provides for temporary access to impacted properties. For highly sensitive land uses, such as schools and emergency services, access plans would be coordinated with the facility owner or administrator, and local police departments.

3.6.2.2 No-Action Alternative

There would be no potential impacts to roadways or pedestrian or bicycle infrastructure under the No-Action Alternative because no construction would occur.

3.7 Hazardous Materials

3.7.1 Affected Environment

A material is considered hazardous if it appears on a list of hazardous materials prepared by a Federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Chemical and physical properties such as toxicity, ignitability, corrosivity, and reactivity may cause a substance to be considered hazardous. These properties are defined in 22 CCR 6621.20-6621.24. A "hazardous waste" is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117).

According to this definition, fuels, motor oil, and lubricants typical at a construction site, as well as lead built up along roadways could be considered hazardous. Excavation and trenching to install irrigation pipelines may expose buried hazardous materials resulting from prior use of the proposed site or adjacent property. In addition, in some instances, untreated wastewater could contain constituents that could be considered hazardous to public health.

A search of the California Department of Toxic Substances Control EnviroStor Database revealed that there are no toxic waste sites within the action area. The closest site is a State Response site located at Camp Parks Reserve Forces Training Area about 1.5 miles southeast of the action area (California Department of Toxic Substances 2015).

3.7.2 Environmental Consequences

3.7.2.1 Proposed Action

Construction of the proposed action has the potential to expose construction personnel and/or the public to unknown hazardous materials or contaminated soils, as described below. Potential human health risks associated with exposure to recycled water are also described below.

Impact HAZMAT-1 – Exposure to Hazardous Materials or Contaminated Soils during Construction

Although not known to exist in the action area, it is possible that the public or construction personnel could be exposed to unknown hazardous materials or contaminated soils during construction of the proposed action. Implementation of Mitigation Measure HAZMAT-1 would reduce the potential for this impact to occur.

Implementation of Mitigation Measure HYD-1 (see Section 3.3, Surface Water and Drainage) would minimize the potential for hazardous waste materials to be introduced inadvertently into sensitive areas, or to be abandoned within construction areas, and would reduce the potential for exposure of construction workers to construction-related hazardous materials (e.g., oils and lubricants).

Mitigation Measure HAZMAT-1 – Hazardous Material Site Safety Plans

The construction contractor shall develop site safety plans to address the potential for encountering hazardous materials during construction activities, including trenching. The site safety plans would also identify protocols for employing personal protective equipment to prevent exposure to unknown hazardous materials.

Impact HAZMAT-2 – Recycled Water Effects on Human Health

Recycled water is derived from wastewater. Untreated wastewater can result in human health risks associated with exposure to pathogens or other potentially dangerous constituents, such as heavy metals, nitrates, and salts. However, the recycled water produced by the DSRSD treatment plant meets the stringent Title 22 requirements for unrestricted use (see Section 2.2.4, Project Operation). This level of treatment has proven to be fully protective of human health with regard to microbial pathogens. Because of the extensive level of treatment required, recycled water can be safely used for a variety of uses, including landscape irrigation. As noted in Section 2.2.4, Project Operation, special signage would be posted in areas where recycled water is used. For these reasons, use of recycled water for landscape irrigation at proposed action facilities would not pose a threat to public health.

3.7.2.2 No-Action Alternative

There would be no potential impacts to the public, construction workers, or the environment from exposure to hazardous materials under the No-Action Alternative because no construction would occur.

3.8 Land Use

3.8.1 Affected Environment

The action area is predominantly suburban in character and consists primarily of residential, light commercial and open space uses. The proposed pipeline corridors would be located primarily in existing roadways adjacent to residential (single-family and/or medium density), recreation, and commercial uses. The sites served by the proposed action facilities are designated in the City of Dublin's General Plan as Public / Semi-Public.

3.8.2 Environmental Consequences

3.8.2.1 Proposed Action

None of the proposed action facilities would be incompatible with current or planned land uses in or adjacent to the action area once they are installed and operational. The proposed pipeline corridors would generally follow existing streets to minimize disruption to the environment adjacent to these routes, and would not result in any long-term land use impacts. Construction-related land use impacts are described below.

Impact LU-1 – Temporary Disruption of Land Uses by Facilities Construction

Construction of the proposed action could result in short-term, construction-related disruption to land uses adjacent to the construction zone, including residences and school / recreation sites being serviced by proposed action facilities. These impacts could include increases in airborne dust, noise levels, and traffic congestion, as described in the Air Quality, Noise, and Traffic and Transportation sections of this EA, respectively. In addition, temporary staging areas for the storage of equipment, pipe, and other construction materials could result in temporary disruption of some land uses. These construction-related impacts would be short-term and would not affect current planned land uses within or in close proximity to the action area.

Implementation of Mitigation Measure LU-1 would ensure that all land owners are aware of potential temporary construction-related disruptions prior to implementation of the proposed action.

Mitigation Measure LU-1 – Notification of Temporary Disruption

DSRSD would provide advance notification to all land uses adjacent to construction zones.

3.8.2.2 No-Action Alternative

There would be no impacts to land uses within the action area under the No-Action Alternative because no construction-related temporary disruptions would occur.

3.9 Recreation

3.9.1 Affected Environment

Within the City of Dublin, there are approximately 22 acres of neighborhood parks, 36 acres of community parks and facilities, and 90 acres of open space (City of Dublin 2013). There are also several existing trail networks that traverse the action area, including dedicated bike lanes along San Ramon Road, Amador Valley Boulevard, and Dublin Boulevard, and a bike path that runs along the South side of San Ramon Road. Additional, proposed bicycle routes and support facilities both within and in the general vicinity of the action area are identified in the City's Bicycle and Pedestrian Master Plan (Fehr and Peers 2014).

The proposed action would provide irrigation water to several sites used for recreation within the action area, including a grass field associated with Nielson Elementary.

3.9.2 Environmental Consequences

3.9.2.1 Proposed Action

The proposed action would not cause an increase in population or in the use of existing neighborhood or regional parks or recreational facilities, nor result in substantial physical deterioration to any existing recreational facilities. It would also not result in the construction or expansion of recreational facilities. Short-term construction-related impacts on recreational use and/or access are described below.

Impact REC-1 – Temporary Disruption of Recreational Access and Use

The proposed action may temporarily disturb access to limited portions of some of the recreational areas served by facilities associated with the proposed action, and/or the bikeways and trails that traverse the action area. These temporary disturbances would be limited in duration and would not result in the permanent displacement of recreational use or access at any location. Implementation of Mitigation Measure TRANS-1 (see Section 3.7, Transportation and Traffic) would reduce temporary impacts to bicycle lanes within the action area. Implementation of Mitigation Measure LU-1 (see Section 3.9, Land Use) would ensure that affected land owners are aware of potential temporary construction-related disruptions prior to implementation of the proposed action.

3.9.2.2 No-Action Alternative

There would be no potential impacts to recreation facilities or recreational use under the No-Action Alternative because construction activities would not occur.

3.10 Visual Resources

3.10.1 Affected Environment

The action area is generally urban and suburban in character. Visual characteristics are typical of residential, commercial, and/or open space uses. Due to the generally flat terrain, views are limited in distance. I-680, which bounds the eastern side of the action area, is officially designated as a State Scenic Highway, which requires special measures by local governments to protect views along the travel corridor.

3.10.2 Environmental Consequences

3.10.2.1 Proposed Action

Impact VIS-1 – Temporary Impacts to Visual Quality

Overall, the proposed action would not result in a long-term aesthetic impact. No new above-ground infrastructure, such as booster pump stations or water meters, would be constructed. Construction-related disturbance has the potential to temporarily alter short-range (10 to 20 feet) and medium range (more than 20 feet away) views of the construction area; however those impacts would be short-term and unlikely to affect sensitive viewsheds or viewers within the action area. No mitigation is required.

3.10.2.2 No-Action Alternative

Under the No-Action Alternative, there would be no impacts on visual resources within the action area because no construction activities would occur.

3.11 Utilities and Public Services

3.11.1 Affected Environment

3.11.1.1 Fire Protection Services

Fire protection services within the action area are under contract with the Alameda County Fire Department (City of Dublin 2015). There are three fire stations in the City of Dublin. The closest station to the action area is located on Donohue Drive, about 2 miles west of the action area.

3.11.1.2 Police Services

Police protection services for the City are performed under contract with the Alameda County Sheriff's Office. Patrol, criminal investigation, crime prevention, and some business office functions are performed at their Civic Center location (less than 1 mile south of the most northern portion of the action area) (City of Dublin 2015).

3.11.1.3 Energy

Pacific Gas & Electric (PG&E) provides natural gas and electricity service to the action area.

3.11.1.4 Wastewater and Sewage Treatment

Wastewater and sewage treatment service within the action area is provided by DSRSD at their treatment plant in the City of Pleasanton, which is located about 3 miles south of the action area. DSRSD effluent from the plant is currently discharged through the LAVWMA outfall to the EBDA pipeline into San Francisco Bay.

3.11.1.5 Water Supply

The City of Dublin's water supply is provided by DSRSD. Zone 7 is a wholesaler of potable water to DSRSD. Potable water lines are generally located below ground in public rights of way and in easements.

Recycled water for the proposed action would be produced at the existing DSRSD recycled water treatment facility in the City of Pleasanton. This facility currently produces 2,149 acre-

feet of recycled water per year but has the capacity to produce 12.2 million gallons per day, or the equivalent of 13,675 acre-feet per year.

3.11.1.6 Solid Waste

Currently, Amador Valley Industries holds the Solid Waste Collection franchise for the City of Dublin (City of Dublin 2015).

3.11.2 Environmental Consequences

3.11.2.1 Proposed Action

Construction of the proposed action has the potential to result in temporary disruptions of access to various public services and utilities, and may require the relocation of existing utility infrastructure.

Impact UPS-1 – Interruption of Services and Utilities

Municipal and utility services could be delayed or interrupted by construction activities associated with the proposed action. This could include re-routing of emergency services, difficulty in reaching service locations, and interruption of gas, electric, water, and other utility services provided to properties along the pipeline alignments. Prior to construction, DSRSD would coordinate with the City of Dublin and utility providers to determine the most appropriate way to avoid service delays and utility interruptions. No mitigation is required.

Impact UPS-2 – Potential Relocation of Infrastructure

Construction within easements and right-of-ways (ROW) that are used by other agencies or utilities may create situations where pipes, cables, and related appurtenances may need to be temporarily or permanently relocated. DSRSD would coordinate with and seek approval from necessary utility providers and/or other agencies if it is determined during final design that any utility infrastructure would need to be relocated to implement the proposed action. No mitigation is required.

Impact UPS-3 –Energy Use

Construction of the proposed action would require the use of energy resources, mostly derived from non-renewable sources. However, it is anticipated that operation related energy use would be reduced as a result of the proposed action because recycled water, which would require less pumping and associated energy cost, would be used for irrigation purposes. No mitigation is required.

3.11.2.2 No-Action Alternative

The purposes of the proposed action are to expand utilization of available recycled water to customers that are currently using potable water for irrigation, and to reduce energy consumption associated with the delivery of irrigation water to proposed action customer sites. Under the No-Action Alternative, DSRSD would continue to use potable water for irrigation purposes at the eleven proposed action customer sites. This continued use of potable water from the San Francisco Bay Delta and the SWP would adversely impact already limited water supplies in the Bay Area. In addition, energy usage would be higher under the No-Action Alternative because, rather than utilizing recycled water for irrigation purposes, potable water would be pumped at a higher energy cost to its San Francisco Bay disposal site.

3.12 Socioeconomics and Environmental Justice

3.12.1 Affected Environment

Information on the population in the State of California, Alameda County, and the City of Dublin, including ethnic composition and income levels, is based on data provided by the American Community Survey (ACS), a nationwide survey by the U.S. Census Bureau to provide communities with updated trend information between official Census data collection periods. The data presented in this section is based on information collected between 2009 and 2013.

3.12.1.1 Population

The estimated population of the City of Dublin in 2013 was 47,642 which, at that time, was about 3 percent of the population of Alameda County and about 1 percent of the total population of the State of California (U.S. Census Bureau 2013a). According to the U.S. Census Bureau, between 2010 and 2013, the population of the City of Dublin grew by 13.2 percent, which was substantially higher than the state-wide population growth rate of 2.9 percent (U.S. Census Bureau 2013a).

Environmental Justice Populations

Title VI of the Civil Rights Act and Executive Order 12898, Environmental Justice, requires Federal agencies to identify minority and low income populations in areas where the effects of a proposed action on human health and the environment would be disproportionately high or adverse. The following sections describe the ethnic composition and income characteristics of the City of Dublin, which encompasses the action area, as well as Alameda County and the State of California.

Ethnic Composition

Table 7 summarizes population composition by ethnic group for the State, Alameda County, and the City of Dublin. About 46.7 percent of the population in the City of Dublin identified themselves as White in the 2009-2013 ACS, which was larger than the percentage of persons in Alameda County (33.7 percent) or the State (39.7 percent). In general, the populations of Black and Asian persons in the City and County were higher than in the State; while the populations of Hispanic and Latino populations were lower (U.S. Census Bureau 2013a).

Table 7 Population Compositions by Ethnic Group

Ethnic Group	City of Dublin (percent)	Alameda County (percent)	State or California (percent)
White	46.7	33.7	39.7
Hispanic or Latino	13.2	22.5	37.9
Black	6.8	11.8	5.7
Asian	27.9	26.6	13.1
All Other Races[1]	5.4	5.4	3.6

Source: U.S. Census Bureau 2013a

[1] Includes persons that identified themselves in the census as American Indian and Alaskan Native; Native Hawaiian and Other Pacific Island; two or more races; or "some other race".

Income

Table 8 summarizes the median household income and number of households in poverty in Alameda County and the State in 2013, as estimated by the Small Area Income and Poverty Estimates program of the U.S. Census Bureau (U.S. Census Bureau 2013b). Poverty status is determined by comparing an income threshold to specific characteristics of a given family (i.e., number of people, number of related children under 18, whether or not the primary householder is over age 65). If a family's income is below that threshold, the family is considered to be in poverty.

The median household income in Alameda County ($72,112) in 2013 was higher than that for the State ($61,094). The number of families in poverty in the County (13 percent) was lower than the percentage in the State (16.8 percent) (U.S. Census Bureau 2013b) (Table 3.13-2).

The 2009-2013 ACS also provided an estimate of families in poverty. The ACS found that 3.8 percent of the population in the City of Dublin met the definition of a family in poverty, compared to 12.5 percent in the County and 15.9 percent in the State (U.S. Census Bureau 2013a).

Table 8 Median Household Income and Population in Poverty in 2013

Area	Median Household Income (dollars)	Population in Poverty	
		Individuals	Percent
Alameda County	72,112	201, 303	13
State of California	61,094	6,328,064	16.8

Source: U.S. Census Bureau 2013b

[1] Small Area Income and Poverty Estimates are model based estimates. The limitations of the model estimates are described in detail at http://www.census.gov/did/www/saipe/about/index.html.

3.12.1.2 Employment

Of the nine counties that comprise the Bay Area (i.e., Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma counties), Alameda County is the second largest, with a population in 2013 of 1,535,248 (U.S. Census Bureau 2013a). The Bay Area is considered one of the busiest urban centers in California and employment growth for Alameda County is driven in large part by the need to provide services to an increasing Bay Area population.

The California Employment and Development Department estimated the total labor force in Alameda County in November 2014 to be 798,500, reflecting an unemployment rate of 5.6 percent. This unemployment rate has decreased from its recent high of 7.4 percent recorded in February 2014 and is lower than the State average unemployment rate of 7.2 percent (EDD 2014).

3.12.2 Environmental Consequences

3.12.2.1 Proposed Action

Population trends in the action area would not be affected by implementation of the proposed action because the proposed action is not anticipated to create any additional long-term employment opportunities. It is also unlikely that the proposed action would have a different or disproportionate effect on minority or low income populations. None of the potential effects identified in this EA (e.g., construction-related air quality, noise, and traffic impacts) would be realized exclusively by a minority or low income population, or in a way that would result in a disproportionate effect on a minority or low income community, either as a result of the nature or location of the specific impact.

3.12.2.2 No-Action Alternative

The No-Action Alternative would not impact low income or minority populations, or affect population trends in the action area because it would not create any new employment opportunities, or require construction activities with a potential to affect low income or minority populations.

3.13 Cultural Resources

3.13.1 Affected Environment

An assessment of the potential for the action area to support cultural resources, including prehistoric, historic, archaeological, and Native American resources, was completed in October 2012 (Tom Origer & Associates 2013). This assessment considered an Area of Potential Effect (APE) that included all areas that could be directly or indirectly affected by construction activities, including streets, associated easements, and proposed staging areas, as well as a vertical APE of up to 9 feet deep.

The action area lies within the San Ramon and Livermore-Amador valleys, which are situated within the Chochenyo territory of the Ohlone Indians. The action area is also located within the historic Murray Township of Alameda County. Results from contact with the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural resources in the immediate action area. One Native American archaeological site, P-01-000063, was previously recorded within 0.5-mile radius of the APE (Tom Origer & Associates 2013). This site is a habitation location, south of I-680, approximately a quarter-mile outside the APE. None of the Native American tribal members contacted in 2013 responded with concerns specific to the proposed action (Tom Origer & Associates 2013).

There is one historic-period resource (P-01-002127) recorded on the south side of Dublin Boulevard, adjacent to the APE. It comprises the Alameda County Heritage Center, which consists of standing structures and a cemetery. No elements of this resource are located within the APE.

3.13.2 Environmental Consequences

3.13.2.1 Proposed Action

The proposed action would be constructed primarily within existing roadways in an urban, developed environment, in areas where soils have generally been previously disturbed, and

which do not coincide with locations of known prehistoric, archaeological, and/or historic sites, including Native American sites. However, construction activities have the potential to impact cultural resources not currently known to the action area, as described below.

Impact CUL-1 –Discovery of Unknown Human Remains

Ground disturbing activities associated with the proposed action may uncover previously unknown human remains. These resources are protected under a variety of state and local laws, including but not limited to the California Public Resources Code (PRC), and California Health and Safety Code (HSC). Implementation of Mitigation Measure CUL-1 would minimize potential impacts to human remains should they be discovered during construction of the proposed action.

Mitigation Measure CUL-1 – Protect Human Remains

The following procedures, as outlined in PRC Section 5097.98 and HSC Section 7050.5, shall be implemented by DSRSD in the event of an accidental discovery or recognition of human remains within the action area.

- There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or stattthe person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or within the action area, in a location not subject to further subsurface disturbance:
    - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission;
    - The descendent identified fails to make a recommendation; or
    - The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

  In addition, upon discovery of unanticipated human remains Reclamation Title XVI Manager from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento, CA) and Reclamation's Regional Archaeologist from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento, CA) shall be notified of the discovery. If human remains are associated with an archaeological site, Reclamation shall be notified in a timely manner so that the federal agency can implement 36 CFR Part 800.13.

Impact CUL-2 – Discovery of Previously Unknown Archaeological Resources

As mandated by Section 106 of the National Historic Preservation Act (NHPA), Federal agencies must take into account the effects of their undertakings on historic properties and seek ways to avoid, minimize, or mitigate adverse effects on such properties (36 CFR 800.1[a]). Although no cultural resources were discovered during the field survey of the APE (Tom Origer & Associates 2013), there is a possibility for previously unknown, buried resources to be uncovered during ground disturbing activities associated with construction of the proposed action. Implementation of Mitigation Measure CUL-2 would ensure protection of previously unknown and sensitive archaeological resources.

Mitigation Measure CUL-2- Post Review Discovery Process for Cultural Resources

In the event that buried cultural resources are discovered during construction, the construction contractor shall immediately stop all operations in the vicinity (ca. 100 feet) of the find until the Reclamation Title XVI Manager from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento, CA) and Reclamation's Regional Archaeologist from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento, CA) are notified and given the opportunity to determine if the resource requires further study and what steps are necessary to comply with 36 CFR 800.13 (b)(3).

3.13.2.2 No-Action Alternative

The No-Action Alternative would have no effect on cultural resources because no ground-disturbing activities would occur.

3.14 Indian Trust Assets

3.14.1 Affected Environment

Indian Trust Assets (ITA) are legal interests in property held in trust for Indian tribes or individuals by the United States. It is Reclamation's policy to protect ITAs from adverse impacts resulting from its programs or activities.

There are no ITAs located within the action area. The nearest ITA is Lytton Rancheria, which is located approximately 27 miles northwest from the action area.

3.14.2 Environmental Consequences

3.14.2.1 Proposed Action

The proposed action would have no effect on ITAs because no construction activities would occur within designated ITAs.

3.14.2.2 No-Action Alternative

The No-Action Alternative would have no effect on ITAs because no construction activities would occur within designated ITAs.

3.15 Cumulative Effects

The Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR 1508.25) require a reasonable analysis of the cumulative impacts of a proposed action. Cumulative impacts refers to "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Given that all of the potential adverse impacts identified in this EA would be associated with construction of the proposed action (e.g., construction-related air quality and noise impacts), the cumulative effects analysis is focused on other projects that (1) would be constructed at approximately the same time as the proposed action (i.e., in 2015); and (2) would occur in the general vicinity of the action area, or the area generally bounded by the Iron Horse Trail to the east, I-580 to the south, Alcosta Boulevard to the North and Creekside Drive to the west. Other projects that meet these criteria and that have the potential to affect one or more of the resource areas impacted by the proposed action are summarized in Table 9.

Table 9 Projects Considered in the Cumulative Effects Analysis

Name of Project	Location	Brief Description	Projected Construction Date
Valero Service Center	7840 Amador Valley Blvd	Mini-mart expansion (7-11) and construction of new car wash	Planning Commission approved 12/11/2012
Dublin Preschool	7250 Amador Valley Blvd.	Construction of a new Day Care Center	Under construction
Fountainhead Montessori	6665, 6670, 6690 Amador Plaza Road.	Expansion of existing preschool including a new elementary school	Approved. Under phased construction
Heritage Office Park	Donlon Way & Dublin Blvd.	Office Building	Under construction
Schaefer Ranch	Dublin Blvd & Schaefer Ranch Road	140 SFD Homes	Under construction
Eden Housing Veteran's Project	6707 Golden Gate Drive	72-unit Affordable Housing project with priority to Military Veterans	Approved 3/26/2013, Construction not yet begun
Crown Chevy Residential Project	7544 Dublin Blvd.	7544 Dublin Blvd. New mixed use building with 314 residential units + 17,000 SF ground-floor commercial	Approved 3/26/2013. Construction not yet begun
Bayrock Multi-Family Townhome Project	6541-6543 Regional Street	Proposal to demolish existing 15,030 SF office building and construct 43 townhomes	SDR and VTM application on file and in Planning review
Heritage Park	Donlon Way & Dublin Blvd.	Single Family Homes	In plan prep

Source: City of Dublin 2011 and 2014

3.15.1 Analysis of Cumulative Effects

The following resource areas are not discussed in this section because it was determined the proposed action would have no adverse effect on them; therefore, the proposed action has no potential to contribute to a cumulative impact.

- Geology, Soils, and Seismicity
- Visual Resources
- Socioeconomics and Environmental Justice
- Indian Trust Assets

The following provides a discussion of potential cumulative effects of the proposed action for the remaining resource areas considered in this EA. Based on the analysis below, the proposed action, when considered in combination with the effects of the other projects listed in Table 9, would not contribute to cumulatively considerable effects.

3.15.1.1 Biological Resources

Continued and persistent development pressures within the Livermore Valley region have resulted in cumulative effects to natural communities and special-status species. Construction of the proposed action would have the potential to contribute to those cumulative impacts by temporarily disturbing non-native habitats during ground-disturbing activities. Implementation of Mitigation Measure BIO-1 would reduce these potential construction-related effects and ensure that the proposed action would not result in a cumulative impact. Proposed extensions of the existing recycled water system under the proposed action would not facilitate increased development in the region, or subsequently result in additional growth-related cumulative impacts on biological resources.

3.15.1.2 Surface Water and Drainage

Construction of the proposed action concurrent with other projects in the general vicinity of the action area could result in temporary impacts to water quality. Construction activities could result in increased erosion and subsequent sedimentation, which, in turn, could affect surface water quality. Additionally, surface water quality could be affected by construction activities that result in the release of fuels or other hazardous materials to stream channels or storm drains. Implementation of Mitigation Measures HYD-1 would minimize the potential for construction-related water quality impacts from the proposed action, and would ensure that the proposed action's contribution to water quality impacts would not be cumulatively considerable.

3.15.1.3 Air Quality

Concurrent construction of the proposed action with the other projects listed in Table 9 would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter, equipment exhaust emissions, and GHG. Implementation of Mitigation Measure AQ-1 would minimize the potential effects of construction-related emissions, and ensure that such emissions are accounted for in BAAQMD's emissions inventory. As such, the proposed action's contribution to air quality impacts would not significantly contribute to a cumulative impact within the Air Basin.

3.15.1.4 Noise

Concurrent construction of the proposed action with the other projects listed in Table 9 could result in temporary, construction-related noise impacts to sensitive noise receptors in the general vicinity of the action area. Implementation of Mitigation Measure NOISE-1 would minimize noise impacts and ensure that the proposed action would not contribute to a cumulatively considerable noise impact.

3.15.1.5 Transportation and Traffic

Construction of the proposed action concurrent with the projects listed in Table 9 could temporarily increase traffic volumes (due to increased construction worker and vehicle trips); result in short-term delays to vehicle traffic in the action area; affect access to local businesses and residences; and cause potential traffic safety hazards for vehicles and bicycle traffic. Implementation of Mitigation Measures TRANS-1 and TRANS-2 would provide for consistent traffic management measures and appropriate timing and routing of traffic flows through construction zones. With these measures in place, the proposed action would not contribute to a considerable cumulative impact on transportation or traffic patterns in the action area.

3.15.1.6 Hazardous Materials

Similar to the proposed action, construction of other projects in the general vicinity of the action area may result in the inadvertent exposure of construction workers or the public to unknown hazardous materials. Implementation of the site safety plan associated with Mitigation Measure HAZMAT-1 would minimize the potential for adverse impacts from such an exposure during construction of the proposed action. As such, the proposed action's contribution to impacts associated with exposure to hazardous materials would not contribute to a cumulative impact.

3.15.1.7 Land Use

As described in Section 3.9, Land Use, the proposed action has the potential to result in short-term construction-related disruption to land uses adjacent to the construction zone, which, when considered in combination with the other projects listed in Table 9, may result in a cumulative effect. Implementation of Mitigation Measure LU-1 would ensure that land uses adjacent to the construction zone have an opportunity to provide input into the construction process, and would minimize potential short term impacts. With this mitigation measure in place, and in consideration of the temporary nature of the proposed action's impacts on land use, the proposed action would not contribute to a considerable cumulative impact to land uses in the action area.

3.15.1.8 Recreation

Potential impacts to recreational facilities associated with the proposed action could include temporary disruption of the recreational facilities (i.e., sidewalks, schools and parks) that would be served by the proposed action facilities, as well as bicycle lanes that traverse the action area. Construction of the proposed action concurrent with the projects listed in Table 9 could further impact access to bicycle lanes and/or result in potential safety hazards for bicycle traffic. Implementation of Mitigation Measure TRANS-1 would provide for consistent traffic management measures, including safe and continued access to bike lanes in the action area. With these measures in place, the proposed action would not contribute to a considerable cumulative impact on recreation resources.

3.15.1.9 Utilities and Public Services

Construction of the proposed action could temporarily interrupt municipal and utility services within the action area, either during construction, or as a result of relocation of utility infrastructure to install proposed action facilities. Similar utility impacts could be realized during construction of any of the projects listed in Table 9. Prior to construction of the proposed action, DSRSD would coordinate with the City of Dublin and utility providers to determine the most appropriate way to avoid service delays and utility interruptions. Other project proponents would be required to do the same. No cumulative impact on utilities and public services is anticipated.

3.15.1.10 Cultural Resources

As described in Section 3.14, Cultural Resources, there are no known cultural resources in the action area; however, there is the potential to encounter previously unidentified resources during construction activities. Similarly, there is the potential to encounter cultural resources during construction of the other projects listed in Table 9. Implementation of Mitigation Measures CUL-1 and CUL-2 would ensure that impacts to previously unknown, sensitive cultural resources within the action area would be minimized, and that a potentially cumulative considerable effect on cultural resources would be avoided.

Chapter 4. Consultation and Coordination with the Public and Other Agencies

4.1 Public Review Period

Reclamation made the EA available for a 15 day period from July 14, 2015 to July 28, 2015. No comments were received.

4.2 State Historic Preservation Officer

The purpose of the NHPA is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Based on the results of the cultural inventory report prepared in support of the proposed action (Tom Origer & Associates 2013), and the unlikelihood that the proposed action would disturb intact soils or features, the proposed action would have no effect on historic properties, pursuant to 36 CFR Part 800.4 (d)(1).

Pursuant to 36 CFR Part 800.4(d)(1), Reclamation initiated consultation with the California State Preservation Officer (SHPO) by letter dated June 9, 2015 notifying a determination of no historic properties affected by the proposed project. SHPO responded by letter dated July 14, 2015 stating no objection to the APE delineation, historic properties identification efforts, or determination. (Appendix B).

4.2.1 Native American Tribes

A letter was sent to the NAHC in October 2012 to determine whether any sacred sites listed on its Sacred Lands File are within the APE for the proposed action. A response from the NAHC was received October 9, 2012 stating that a search of it Sacred Lands File failed to indicate the presence of Native American cultural resources in the immediate action area. Included with the response was a list of eight Native American representatives who may have further knowledge of Native America resources within or near the APE.

On October 16, 2012, letters were sent to each of the listed tribal contacts discussing the proposed action. In addition, emails were sent to those representatives with access to email accounts on February 4, 2015. No response has been received to date from the Native American representatives contacted about the proposed action.

Reclamation identified the Tuolumne Band of Me-Wuk Indians and the Tule River Indian Tribe as potentially having an interest in the proposed project and project area. Pursuant to 36 CFR § 800.4(a)(4), Reclamation contacted these tribes and invited their participation in the Section 106 process via letter on May 18, 2015. To date there have been no responses from the identified tribes.

4.3 Related Actions by Other Agencies

The following permits, approvals, and actions would be required for the proposed action to be implemented. DSRSD would be responsible for obtaining each of these permits prior to construction of the proposed action.

- Encroachment Permit, City of Dublin – The City of Dublin would require that an encroachment permit be obtained to place new distribution pipelines in City streets.
- Encroachment Permit, Zone 7 Water Agency – Encroachment permit from Zone 7 may be required for encroachment into the flood control channels along the alignment.
- Construction General Permit, California State Water Resources Control Board (SWRCB) – A National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) is required any time construction-related activities would disturb 1 or more acres, and may result in a discharge to a surface water or conveyance system that leads directly to a surface water of the State. The Construction General Permit is administered by the SWRCB.

Chapter 5. References Cited

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Appendix A:

Summary of Impacts and Mitigation Measures

Impact		Mitigation Measures
Proposed Action	**No-Action Alternative**	
Biological Resources		
Impact BIO-1 – Disturbance to Nesting Birds During Construction. Construction noise has the potential to disturb nesting birds in and adjacent to the action area. In addition, nesting bird habitat could be temporarily disturbed by construction activities.	No impact.	Mitigation Measure BIO-1 - Conduct Preconstruction Nesting Bird Surveys, Establish No-disturbance Disturbance Buffers, and Revegetate Disturbed Areas The following measures would be implemented by DSRSD or their contractors prior to, during, and after construction of the proposed action. 1. If construction of the proposed action begins during the breeding season (February 1st to August 31st), preconstruction nesting bird surveys would be conducted within suitable habitat by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing, or surface-disturbing activities. If no active nests are found within the action area, no further mitigation is necessary. 2. If active nests (i.e. nests in the egg laying, incubating, nestling or fledgling stages) are found within 300 feet of the proposed action footprint for raptor (birds of prey) species or 100 feet of the proposed action footprint for all other bird species, no-disturbance buffers should be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. Work within non-disturbance buffers should be rescheduled to occur after the young have fledged as determined by a qualified biologist. Buffer size should be determined in cooperation with CDFW and USFWS. 3. If rescheduling of work is infeasible and no-disturbance buffers cannot be maintained, a qualified biologist should be on site to monitor active nests for signs of disturbance. If it is determined that proposed action related activities are resulting in nest disturbance, work should cease immediately, and CDFW and USFWS should be contacted for further guidance. 4. Tree removal, pruning, grubbing, grading, or other construction activities conducted outside of the breeding season (i.e. September 1st to January 29th) do not require preconstruction surveys. 5. All areas along the proposed alignment disturbed by construction shall be reseeded as a soon as possible after construction (but before fall rains) with a grass and forb mixture to reduce erosion hazards. All reseeding should be completed with a native grass and forb mixture. If landscaped vegetation is removed along existing roads or residences, it shall be replaced in kind at a 1:1 ratio with appropriate landscaping species.

Impact		Mitigation Measures
Proposed Action	**No-Action Alternative**	
Impact BIO-2 – Impact of Recycled Water on Vegetation. Recycled water can have a higher concentration of dissolved salts than potable water. With long-term use, the application of recycled water for irrigation purposes can increase the concentration of salts in the root zone, potentially affecting plant growth and/or damaging foliage.	No impact.	Mitigation Measure BIO-2 – Irrigation Water Application Best Management Practices. The following irrigation water application BMP shall be implemented at customer sites under the supervision of DSRSD: All site managers shall be properly trained in the use of recycled water for landscape irrigation. Training shall include instruction on the appropriate quantity of irrigation water to apply to ensure adequate leaching of accumulated salts from the root zone during times when precipitation is below average. All customer sites shall be maintained to allow adequate surface drainage without allowing excess quantities of recycled water to drain offsite. Site managers shall be required to monitor the health and appearance of vegetation being irrigated with recycled water and identify any adverse effects, including a substantial reduction in growth or plant mortality. As necessary and depending on the exact cause of the impact (e.g., poor drainage, poor soil structure or chemistry), one of the following additional measures may be implemented if adverse effects on on-site vegetation are observed: Amend the soil or irrigation water, as appropriate. For example, a calcium amendment may help prevent the breakdown of the soil structure and the consequent reduction of permeability. Replace salt-intolerant plants with salt-tolerant plants.
Impact BIO-3 – Impacts to Waters of the U.S. The proposed action has been designed to avoid open water, riparian vegetation, and seasonal wetland habitat in the action area.	No impact.	Mitigation Measure BIO-3 - Avoid Disturbance of Waters of the U.S., Including Wetland Communities. DSRSD and the construction contractor shall avoid and minimize indirect and/or unintentional impacts on wetlands and other waters of the U.S. (creeks, steams, and rivers) by implementing the following measures. • Waters of the U.S., including wetland habitats, which occur near the action area, will be protected by installing environmentally sensitive area fencing at least 20 feet from the edge of the water/wetland. Depending on site-specific conditions, this buffer may be wider than 20 feet to prevent erosion and sedimentation impacts on habitat. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language stating that construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities are prohibited within the fenced environmentally sensitive area.

Impact		Mitigation Measures
Proposed Action	**No-Action Alternative**	
		• Where determined necessary by resource specialists, geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) shall be used in saturated conditions to minimize damage to the substrate and vegetation. These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, DSRSD shall ensure that the contractor incorporates all permit conditions into construction specifications.
Surface Water and Drainage		
Impact HYD-1 – Construction-Related Water Quality Impacts. Construction of the proposed action could leave soils exposed to rain or surface water runoff that may carry soil contaminants (e.g., nutrients, metals, hydrocarbons, or other pollutants) into waterways adjacent to the action area, degrading water quality and potentially resulting in a violation of water quality standards.	No impact.	Mitigation Measure HYD -1 – Implement Best Management Practices. To minimize construction-related water quality impacts, DSRSD and their contractors would implement BMPs in accordance with the Construction General Permit administered by the SWRCB. Examples of construction BMPs include the following and would be documented in an approved SWPPP: • Place temporary devices, such as straw, biodegradable fiber, or sandbags to intercept sheet flow runoff and settle sediment through the barriers. • Implement dust control measures to keep the amount of airborne dust particles to a minimum and to reduce erosion and airborne pollutants during the time between site disturbance and paving or revegetation. • Implement measures to prevent construction equipment or vehicles from tracking sediments out of a work site onto paved roadways. • Conduct all maintenance activities in a designated area designed to contain spills and prevent run-on or run-off.
Geology, Soils, and Seismicity		
Impact GEO-1 – Earthquake Damage to Facilities. Facilities associated with the proposed action could be affected by moderate to strong ground shaking from major earthquakes during the life of the proposed action. Due to the close proximity of the Calaveras Fault, a major earthquake along this fault (or other currently inactive faults in general vicinity) could produce severe ground shaking at sites within	There would be no potential impacts on geology or soils under the No-Action Alternative because no new infrastructure would be constructed. Similar to the proposed action, existing infrastructure delivering potable to water to customer sites would	Mitigation Measure GEO-1 – Design Proposed Action to Meet Seismic Requirements. DSRSD will ensure that all facilities associated with the proposed action conform to the most recent editions of the Uniform Building Code, the California Building Code, and the Seismic Safety element of the City of Dublin's General Plan and grading ordinance.

Impact		Mitigation Measures
Proposed Action	**No-Action Alternative**	
the action area.	also be subject to ground shaking should it occur.	
Air Quality		
Impact AQ-1 – Construction-Generated Air Pollutants in Diesel-Powered Equipment Exhaust. Construction of proposed action would generate temporary emissions of criteria pollutants from diesel-powered equipment exhaust, including ROG, NO_x, PM_{10}, and $PM_{2.5}$.	Continued use of potable water to irrigate lands within the action area would result in more substantial GHG and air pollutant emissions when compared to the use of recycled water for the same purposes, as prescribed under the proposed action. An additional 118 $MTCO_2e$ of GHG would be emitted per year to deliver potable water to irrigate proposed action facilities under the No-Action Alternative. No construction-related air pollutant emissions would be associated with the No-Action Alternative.	Mitigation Measure AQ-1 – Implement Air Quality Best Management Practices in Accordance with BAAQMD Guidance. The following air quality BMPs will be implemented by the construction contractor in accordance with BAAQMD guidance: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt tracked onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicles speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. • A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.
Impact AQ-2 – Construction-Generated Fugitive Dust. Construction of the proposed action would result in the generation of fugitive dust associated with disturbance of exposed soil and road dust entrained from vehicles transiting through construction sites.		Implementation of Mitigation Measures AQ-1 would reduce the potential for adverse localized dust impacts during construction.
Impact AQ-3 – Construction-Related Greenhouse Gas Generation. Construction-related GHG emissions would be associated with the exhaust of construction equipment and vehicles used to haul equipment and employees to and within the action area. The		No mitigation required.

Impact		Mitigation Measures
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proposed action would generate approximately 24.4 metric tons of GHG over the duration of construction. Because construction-related emissions would be finite in nature, below the minimum standard for reporting requirements under California State Assembly Bill 32, and because the BAAQMD did not include a construction-generated GHG threshold, the GHG emissions related to construction of the proposed action are not considered a cumulatively considerable contribution to global climate change.		
Impact AQ-4 – Operational Greenhouse Gas Emission Reductions. It is anticipated that operation related air pollutant and GHG emissions would be reduced as a result of the proposed action. This reduction would be attributable to the reduced distance both potable and recycled water would need to be pumped to meet ongoing demand. Specifically, use of recycled water to meet irrigation demand in the action area would offset the use of up to 203.1 acre feet (66.18 million gallons) of potable water each year and result in a reduction of GHG emissions of up to 118 MTCO2e per year at project build-out.		Beneficial Impact. No mitigation required.
Impact AQ-5 – General Conformity. Total air pollutant emissions from construction of the proposed action would be far below the annual *de minimis* thresholds prescribed by BAAQMD (i.e., 50 tons for ROG, and 100 tons from NOx and CO). Therefore, no further conformity analysis with respect to the Clean Air Act is required.		No mitigation required.

Impact		Mitigation Measures
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Noise		
Impact NOISE-1 – Construction-Related Noise Generation. The proposed action would produce noise during the construction phase, but would not expose sensitive receptors to permanent, excessive noise levels. In addition, because construction activities would occur in a linear fashion, any one receptor would only be exposed to construction-generated noise for a short duration prior to activities continuing down the pipeline.	No impact.	Mitigation Measure NOISE-1 - Limit Timing and Equipment Used During Construction. The construction contractor will adhere to all local ordinances regulating hours of construction to minimize the potential for sleep disturbance and annoyance to sensitive noise receptors in the action area. As noted above, the City typically requires that construction be limited to daytime hours (between 7:30 am and 5:00 pm). To minimize construction noise generation, all equipment shall be outfitted with mufflers equal or superior in noise attenuation to those provided by the manufacture of the equipment. In addition, idling equipment will be shut off.
Transportation / Traffic		
Impact TRANS-1 – Construction-Related Traffic Disturbance. The proposed action would result in construction activities within existing roadways, thereby temporarily reducing the capacity of those roadway segments during construction. Construction in existing roadways may also result in temporary closure of bike lanes and disruption of public transit services.	No impact.	Mitigation Measure TRANS-1 - Prepare Traffic Management Plan. DSRSD or its contractor shall prepare a traffic management plan for review and approval by the City of Dublin. The traffic management plan shall address bike and vehicle travel through construction zones and the use of flaggers and off-peak construction hours. Cones and/or other similar temporary traffic flow control devices will be used where necessary to establish bike and/or vehicle lanes through construction zones to protect bicyclists from construction activities and vehicle traffic, and to provide for adequate vehicle movement. Where vehicle lanes within heavily traveled roadways will be closed as a result of roadway crossings, lane closure plans should be employed in accordance with municipal traffic management requirements. Where the width of the roadway will preclude establishing temporary lanes in two directions, and where acceptable detour routes are not available, flaggers will be used to maintain two-way traffic flow.
		Mitigation Measure TRANS-2 - Coordinate with Transit Providers. DSRSD shall coordinate with transit providers in the City of Dublin, including WHEELS and the Alameda-Contra Costa Transit District, to temporarily relocate bus stops along roadways during construction, as required, to ensure uninterrupted service.
Impact TRANS-2 – Displaced Access to Adjacent Properties. The proposed action may temporarily displace access to some private or commercial properties during trenching operations.		Mitigation Measure TRANS-3 – Notify Adjacent Property Owners of Construction Activities. DSRSD (or its contractor) shall notify adjacent property owners of construction schedules and develop a traffic management plan (Mitigation Measure TRANS-1) that provides for temporary access to properties. For highly sensitive land uses, such as schools and emergency services, access plans will be

Impact		Mitigation Measures
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		coordinated with the facility owner or administrator, and the local police departments.
Hazardous Materials		
Impact HAZMAT-1 – Exposure to Hazardous Materials or Contaminated Soils During Construction. Although not known to exist in the action area, it is possible that the public or construction personnel could be exposed to unknown hazardous materials or contaminated soils during construction of the proposed action.	No impact.	Mitigation Measure HAZMAT-1 – Hazardous Material Site Safety Plans. Site safety plans shall be prepared by the construction contractor to address the potential for encountering hazardous materials during construction, including trenching. The site safety plans will identify protocols for employing personal protective equipment to prevent exposure to unknown hazardous materials or contaminated soils. Implementation of Mitigation Measure HYD-1 would minimize the potential for hazardous waste materials to be introduced inadvertently into sensitive areas, or to be abandoned within construction areas, and would reduce the potential for exposure of construction workers to construction-related hazardous materials (e.g., oils and lubricants).
Impact HAZMAT-2 – Recycled Water Effects on Human Health. Recycled water is derived from wastewater. Untreated wastewater can result in human health risks associated with exposure to pathogens or other potentially dangerous constituents, such as heavy metals, nitrates, and salts. However, the recycled water produced by the DSRSD treatment plant would meet the stringent Title 22 requirements for unrestricted use. This level of treatment has proven to be fully protective of human health with regard to microbial pathogens. Because of the extensive level of treatment required, recycled water can be safely used for a variety of uses, including landscape irrigation. Special signage will be posted in areas where recycled water is used. For these reasons, use of recycled water for landscape irrigation at proposed action facilities would not pose a threat to public health.	No impact.	No mitigation required.

Impact		Mitigation Measures
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Land Use		
Impact LU-1 – Temporary Disruption of Land Uses by Facilities Construction. Construction of the proposed action could result in short-term, construction-related disruption to land uses and businesses adjacent to the construction zone. These impacts could include increases in airborne dust, noise levels, and traffic congestion. In addition, temporary staging areas for the storage of equipment, pipe, and other construction materials could result in temporary disruption of some land uses. These construction-related impacts would be short-term and would not affect current planned land uses within or in close proximity to the action area.	No impact.	Mitigation Measure LU-1 – Notification of Temporary Disruption. DSRSD would provide advance notification to all land uses adjacent to construction zones.
Recreation		
Impact REC-1 – Temporary Disruption of Recreational Access and Use. The proposed action may temporarily disturb access to limited portions of some of the recreational areas served by facilities associated with the proposed action, and/or the bikeways and trails that traverse the action area. This temporary disturbance would be limited in duration and would not result in the permanent displacement of recreational use or access at any location.	No impact.	Implementation of Mitigation Measure TRANS-1 would reduce temporary impacts to bicycle lanes within the action area. Implementation of Mitigation Measure LU-1 would ensure that affected land owners are aware of potential temporary construction-related disruptions prior to implementation of the proposed action.
Visual Resources		
Impact VIS-1 – Temporary Impacts to Visual Quality. Construction-related disturbance has the potential to temporarily alter short-range (10 to 20 feet) and medium range (more than 20 feet away) views of the construction area; however those impacts would be short-term and unlikely to affect sensitive viewsheds or viewers within the action area.	No impact.	No mitigation required.

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Utilities and Public Services		
Impact UPS-1 – Interruption of Services and Utilities. Municipal and utility services could be delayed or interrupted by construction activities associated with the proposed action. This could include re-routing of emergency services, difficulty in reaching service locations, and interruption of gas, electric, water, and other utility services provided to properties along the pipeline alignments. Prior to construction, DSRSD would coordinate with the City of Dublin and utility providers to determine the most appropriate way to avoid service delays and utility interruptions.	Under the No-Action Alternative, DSRSD would continue to utilize potable water for irrigation purposes at the proposed action customer sites. This continued use of potable water from the San Francisco Bay Delta and the SWP would adversely impact the already limited water supplies in the Bay Area. In addition, energy usage would be higher under the No-Action Alternative because, rather than utilizing recycled water for irrigation purposes, potable water would be pumped at a higher energy cost to its San Francisco Bay disposal site.	No mitigation required.
Impact UPS-2 – Potential Relocation of Infrastructure. Construction within easements and ROWs that are used by other agencies or utilities may create situations where pipes, cables, and related appurtenances may need to be temporarily or permanently relocated. DSRSD would coordinate with and seek approval from necessary utility providers and/or other agencies if it is determined during final design that any utility infrastructure would need to be relocated to implement the proposed action.		No mitigation required.
Impact UPS-3 –Energy Use. Construction of the proposed action would require the use of energy resources, mostly derived from non-renewable sources. However, it is anticipated that operation related energy use would be reduced as a result of the proposed action because recycled water, which would require less pumping and associated energy cost, would be used for irrigation purposes.		No mitigation required.
Socioeconomics and Environmental Justice		
No Impact.	No impact.	No mitigation required.

Impact		Mitigation Measures
Proposed Action	**No-Action Alternative**	
Cultural Resources		
Impact CUL-1 –Discovery of Unknown Human Remains. Ground disturbing activities associated with construction of the proposed action may uncover previously unknown human remains.	No impact.	Mitigation Measure CUL-1 – Protect Human Remains. The following procedures, as outlined in PRC Section 5097.98 and HSC Section 7050.5, shall be implemented by DSRSD in the event of an accidental discovery or recognition of human remains within the action area. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the NAHC within 24 hours, and the NAHC shall identify the person or persons it believes to be the "most likely descendant" of the deceased Native American. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98, or where the following conditions occur, the landowner or his/her authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendent or within the action area, in a location not subject to further subsurface disturbance: The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission; • The descendent identified fails to make a recommendation; or • The landowner or his authorized representative rejects the recommendation of the descendent, and the mediation by the NAHC fails to provide measures acceptable to the landowner. If human remains are associated with an archaeological site, Reclamation shall also be notified in a timely manner so that the federal agency can implement 36 CFR Part 800.13. In addition, if applicable, Reclamation's Directives and Standards for the Inadvertent Discovery of Human Remains shall be followed as outlined below. If human remains are encountered during earth-disturbing activities within the APE, all work in the adjacent area shall stop immediately and the discoverer shall immediately provide verbal notification to Reclamation's authorized official, the

Impact		Mitigation Measures
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		Regional Director (RD) or the RD's designee, of the discovery of human remains. Within 48 hours of the verbal notification, the RD or RD's designee will confirm the discovery with a written confirmation. In addition, the RD/RD designee will: 1. Immediately provide protection and security for the human remains; 2. Immediately notify the appropriate cultural resources professional; 3. Immediately notify the appropriate law enforcement agency; 4. Notify and consult with lineal descendants and tribal officials, immediately if Native American; 5. Immediately comply with appropriate laws; and 6. Within 5 working days of the written notification, establish a record of discovery including discovery circumstances, protection steps taken, names of persons notified and recommendations for further actions (Directives and Standards LND07-01[5]).
Impact CUL-2 –Discovery of Previously Unknown Archaeological Resources. Although no cultural resources were discovered during the field survey of the APE, there is a possibility for previously unknown, buried resources to be uncovered during ground disturbing activities associated with construction of the proposed action.		Mitigation Measure CUL-2- Post Review Discovery Process for Cultural Resources. In the event that buried cultural resources are discovered during construction, the construction contractor shall stop operations immediately in the vicinity (ca. 100 feet) of the find until the Reclamation Title XVI Manager from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento California) and Reclamation's Regional Archaeologist from the Mid-Pacific Regional Office (2800 Cottage Way, Sacramento, CA) are notified and given the opportunity to determine if the resource requires further study and what steps are necessary to comply with 36 CFR 800.13(b)(3).
Indian Trust Assets		
No Impact.	No impact.	No mitigation required.

Appendix B:

Cultural Resources Compliance Memo

CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

MP-153 Tracking Number: 15-MPRO-110

Project Name: Western Dublin Recycled Water Expansion Project

MP 153 Cultural Resources Reviewer: Mark Carper

NEPA Doc: EA

NEPA Contact: Douglas Kleinsmith

Determination: No historic Properties Affected

This proposed undertaking by Reclamation to provide funding for the proposed extension of recycled-water distribution pipelines. These pipelines would serve landscape irrigation demands at several schools, parks, streetscapes, and medians, along with other developed areas located within the City of Dublin in Alameda County. Reclamation determined that the action to provide funding through Reclamation's Water Reclamation and Reuse (Title XVI) Program constitutes an undertaking as defined in 36 CFR § 800.16(y) and involves the type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a).

DSRSD has operated a recycled water system that has delivered disinfected tertiary-treated recycled water to users since 2001. Originally, the recycled water system was designed primarily to produce and deliver recycled water to two power plants. The system has been expanded incrementally in the intervening years to serve several landscape irrigation customers within DSRSD service area. The incremental expansion has resulted in a functional, but not optimal, recycled water system. Currently, DSRSD serves existing users under all demand conditions, but adding new users during summer peak periods would cause deficiencies.

The proposed pipeline segments would range from 4 to 8 inches in diameter (depending on pressure and volume considerations). Approximately 11,560 feet of 8-inch pipeline, 500 feet of 6-inch pipeline, and 5,560 feet of 4-inch pipeline would be installed within existing utility corridors. Of the project's 17,620 total linear feet of pipeline, 16,520 feet would run within paved roadways. The remainder 1,200 feet would run adjacent to a bike path and through a landscaped schoolyard. Cut-and-cover trenching techniques would be used to install the pipelines associated with the proposed action. All staging and laydown areas

would be in paved, built environments. Cut-and-cover trenching requires excavating an open trench to allow placement of the recycled-water pipeline and associated infrastructure and backfilling the trench after the pipeline is assembled. The open trench would be 5 to 6 feet deep and 3 feet wide. The depth of the trench depends on the presence of underground utilities and the size of pipe to be installed. In areas of existing utilities, the trench could reach 9 feet deep. In areas of creek and flood control crossings, the pipeline would be buried in the fill dirt above the existing culvert/pipe and below the sidewalk.

In an effort to identify historic properties, Tom Origer & Associates (Origer) was contracted to conduct the cultural resources study encapsulating the project area (report enclosed). The study included a records search and literature review, a Native American Heritage Commission (NAHC) Sacred Lands File search, and communication with organizations and individuals listed by the NAHC as appropriate Native American contacts. Origer identified no cultural resources within the APE. Archival research indicated that the southwestern portion of the APE along Dublin Boulevard has a heightened potential for the presence of buried historic cultural resources; however, the trenching would follow disturbed utility corridors, so the likelihood of encountering historic properties is considered negligible.

Reclamation identified the Tuolumne Band of Me-Wuk Indians and the Tule River Indian Tribe as potentially having an interest in the proposed project and project area. Pursuant to 36 CFR § 800.4(a)(4), Reclamation contacted these tribes and invited their participation in the Section 106 process via letter on May 18, 2015. To date there have been no responses from the identified tribes.
Reclamation initiated consultation with the California State Preservation Office (SHPO) by letter dated June 9, 2015 notifying a determination of no historic properties affected by the proposed project. SHPO responded by letter dated July 14, 2015 stating no objection to the APE delineation, historic properties identification efforts, or determination.

After reviewing the EA for the proposed program Reclamation finds that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places.

This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.